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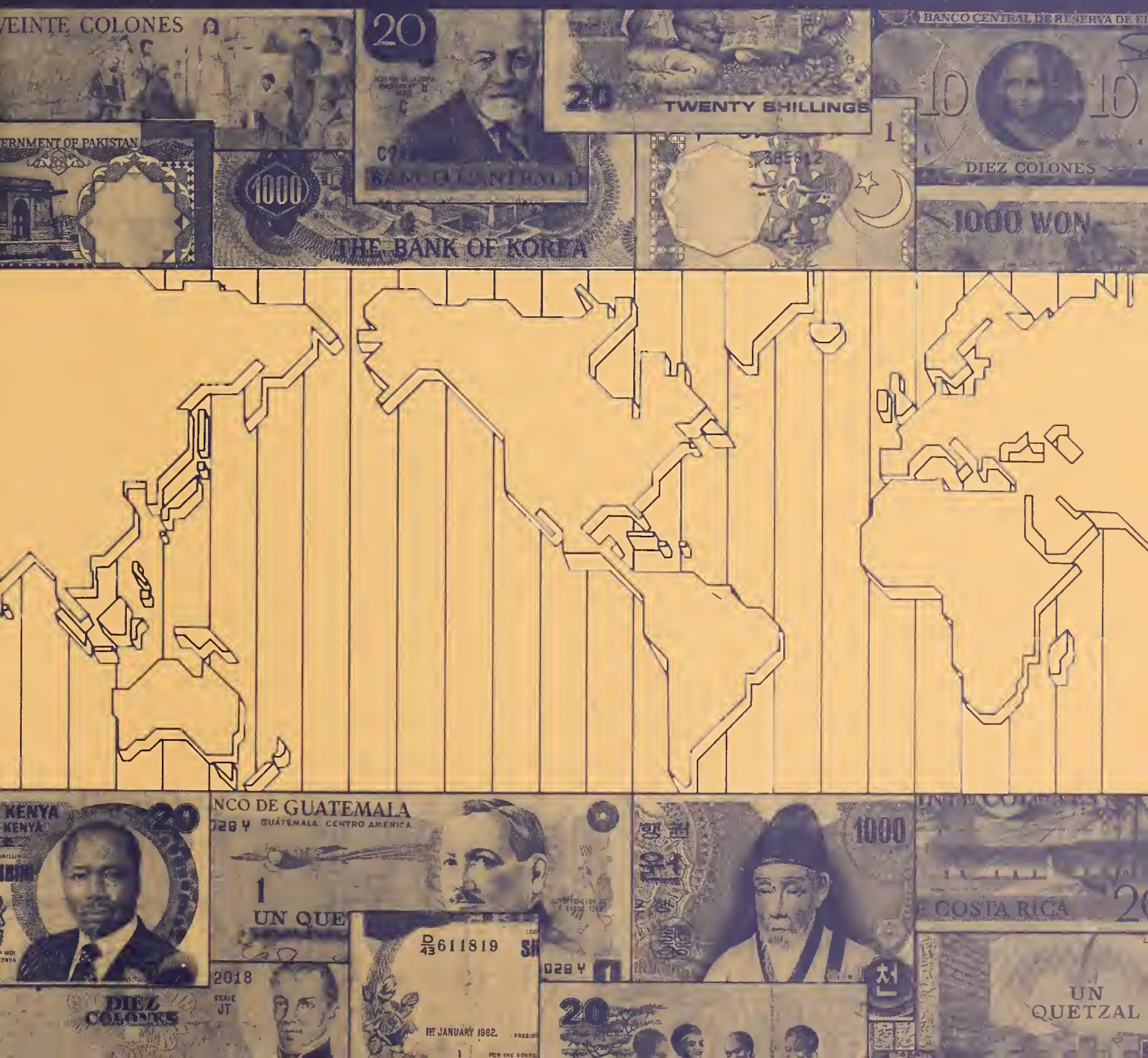
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Financial Constraints to Trade and Growth

The World Debt Crisis and Its Aftermath

Mathew D. Shane
David Stallings



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ABSTRACT

The debt problems of developing countries will severely limit their ability to purchase goods in the world market for at least the next 5 years. Resolutions of these debt problems could increase potential U.S. agricultural exports by as much as 20 percent. The large debts of the developing countries became serious problems with the shifts to tighter monetary policies by the developed countries in the late seventies and consequent slowing of inflation and credit flows. Eighteen countries which are major markets for U.S. agriculture hold more than 60 percent of the problem debt. Both current debts and national economic policies in the developing countries must be restructured to begin the strengthening of those countries' economies. Developed countries can help the economic recovery of developing nations by providing markets for their export commodities.

Keywords: International debt, trade, growth, financial constraints to trade, developing countries, U.S. agricultural exports, U.S. agricultural trade policy.

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PREFACE

Congress will consider new farm legislation in 1985 to replace the expiring Agriculture and Food Act of 1981. In preparation for these deliberations, the Department of Agriculture and many groups throughout the Nation are studying the experience under the 1981 law and preceding legislation to see what lessons can be learned that are applicable to the 1980s. This report is part of a series of background papers for 1985 farm bill discussions. Other papers in the series explore the characteristics of 14 commodities, the farm industries which produce them, and the farm programs under which they are produced. These papers, available from EMS Information, 1470-S, USDA, Washington, DC 20250, (202/447-7255), focus on Honey (AIB-465), Wool and Mohair (AIB-466), Wheat (AIB-467), Tobacco (AIB-468), Peanuts (AIB-469), Rice (AIB-470), Corn (AIB-471), Soybeans (AIB-472), Oats (AIB-473), Dairy (AIB-474), Sorghum (AIB-475), Cotton (AIB-476), Barley (AIB-477), and Sugar (AIB-478). Other background papers available are Federal Credit Programs for Agriculture (AIB-483), History of Agricultural Price-Support and Adjustment Programs, 1933-84 (AIB-485), Foreign Exchange Constraints to Trade and Development (FAER-209), Possible Economic Consequences of Reverting to Permanent Legislation or Eliminating Price and Income Supports (AER-526), and Impacts of Policy on U.S. Agricultural Trade (ERS Staff Report No. AGES840802).

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SUMMARY

The debt problems of developing countries will limit their ability to purchase goods in the world market for at least the next 5 years. Resolution of these debt problems could increase potential U.S. agricultural exports by as much as 20 percent. The debt problems of the developing countries began with the shift to tight monetary policies by the developed countries in the late seventies. Eighteen countries which are major markets for U.S. agriculture hold more than 60 percent of the problem debt. Both current debts and national economic policies in the developing countries must be restructured to begin the strengthening of those countries' economies. Developed countries can help the economic recovery of developing nations by providing markets for their export commodities.

Middle-income countries such as Mexico, Korea, and Nigeria provided the fastest growing markets for U.S. agricultural exports from 1974–80. These countries purchased about one-third of U.S. agricultural exports, and this share grew during that period. The 1981–83 global recession halted that growth; countries with serious debt-repayment problems cut their purchases of U.S. agricultural exports most severely.

Specific findings of this study include the following:

- o International banks responded to the first oil crisis in 1973–74 by making large sums of money available to developing countries at low interest rates. The banks loaned substantial amounts as their deposits from oil-exporting countries grew. Middle-income developing countries took advantage of the low-interest loans to begin major import and development programs.
- o The middle-income countries tried to sustain their import and development programs after the 1979–80 oil crisis by borrowing even more heavily from the international banks. Conditions which made repayment more difficult in subsequent years included rising interest rates, declining terms of trade, devalued exchange rates, and lost export earnings.
- o In the 25 years between 1956 and 1980, 22 countries negotiated reschedulings of \$21.5 billion in debts with their creditors. In only 3 years between 1981 and 1983, 25 countries negotiated reschedulings of \$55 billion in debts.
- o Countries which are middle-income oil importers and major markets for U.S. agricultural exports and the countries in Latin America, East Asia and the Pacific, and nonoil-producing North Africa are most severely affected by debt problems.
- o National debt among the developing countries grew by more than 20 percent annually after the 1973–74 oil crisis, exceeding growth rates for both gross national product and exports. The growth rate of debt will probably fall significantly in the current international environment.
- o Developed countries must expect reduced exports to developing countries until the debt repayment problems are resolved. Not only will export growth rate trends probably decline, exports to the most severely affected countries may actually decline in absolute terms.
- o The developing countries will likely turn to the developed countries for financial assistance in order to overcome the current problems.

Financial Constraints to Trade and Growth

The World Debt Crisis and Its Aftermath

Mathew D. Shane
David Stallings*

INTRODUCTION

From 1975–80, developing countries provided the fastest growing market for U.S. agricultural exports. The share of total U.S. agricultural commercial sales to the Third World grew from 30 to almost 35 percent during this period. These sales were especially concentrated in the middle-income countries. The world recession of 1981–83 abruptly halted their market expansion. Those nations with the most serious debt repayment problems severely curtailed purchases of U.S. agricultural products. For the first time since the thirties, the nature and scope of international debt seriously constrained the international trade and payments systems.

Public awareness of the potential impact of international debt began with Poland's repayment problems in 1981. Shortly thereafter, a series of debt-servicing problems arose in major debtor countries, particularly Mexico, Brazil, and Argentina. However, the rapid and expedient handling of these problems by the International Monetary Fund (IMF), the United States, other major Western governments, and major financial institutions has prevented the initial problem from leading to a greater international financial crisis.

A condition for IMF assistance in averting outright defaults, among other things, is a sharp curtailment of imports. As a result,

trade in all farm products, in 1982, fell both in absolute dollar amount and as a percentage of total imports of the developing countries. Furthermore, the U.S. market share of all agricultural exports to the Third World fell from over 28 percent to 25.5 percent.

This report examines what these debt problems mean for world trade and economic growth in the intermediate and longer term and derives the implications of this situation for U.S. agricultural export prospects.¹ Although the risks to the international financial system have been assessed, little analysis has been done on how actions taken to redress the immediate and serious debt repayment problem have affected and will affect international economic growth and trade (4, 6, 7, 8, 14).

This analysis focuses on the debt situation in 93 developing countries which are grouped into the following regions: Africa south of the Sahara, East Asia and the Pacific, Latin America and the Caribbean, North Africa and the Middle East, South Asia, and Europe and the Mediterranean. We also included low-income Africa, low-income Asia, middle-income oil importers, middle-income oil exporters, and major borrowers. These are categories used by the World Bank in its World Debt Tables (28) and World Development Report (29). We have defined two additional groupings: debt-affected countries and

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¹ Much of the data underlying the analysis in this report is presented in (25). Underlined numbers in parentheses refer to references cited in the Bibliography of this report.

developing countries which are major agricultural markets for the United States. Only the regional categories are mutually exclusive.

We did not include all countries classified in the World Bank categories in this study. We excluded several minor countries because of seriously limited available data.² However, because these countries make up a small percentage of the total of gross national product (GNP) and trade in goods and services, overall results and conclusions are unaffected.³ A far more serious omission is that of Poland, which is not included in the *World Debt Tables* (28) because it is not a member of the World Bank and IMF. Poland is not included in our study because we were unable to obtain comparable data.⁴

International trade will be severely affected by the debt problems of the developing countries for at least the next 5 years. International trade will not significantly increase for the United States or other nations unless both developed and developing countries find fundamental solutions and take aggressive action to overcome this situation. The solution lies in dramatic internal restructuring of the economies of debtor countries and in the restructuring of current debt into more manageable long-term obligations.

BACKGROUND: FACTORS UNDERLYING THE GROWTH IN WORLD DEBT

The oil shock of 1973–74 threw many countries into a balance-of-payments disequilibrium. The fourfold increase in oil prices by members of the Organization of Petroleum Exporting Countries (OPEC) dramatically altered payment flows and the international financial environment, initiating the process by which significant debt was accumulated.

² We excluded Burundi, Cape Verde, and Comoros in low-income Africa and Maldives and Vanuatu in low-income Asia.

³ Except for low-income Africa, the omissions amount to less than 1 percent of the groups' GNP.

⁴ Estimates from the Bank for International Settlements (BIS) and Organization for Economic Cooperation and Development (OECD) sources put Poland's total debt in 1982 at about \$20 billion (2, 23).

The developed countries employed easy monetary policies both before and after the first oil shock; as a result, economic growth in developing countries continued. The change in trade flows and expansionary monetary policies in the OECD nations generated liquidity previously unavailable to the international financial system.⁵ International bankers recycled this liquidity in the form of petrodollar deposits, by beginning a massive lending program to middle-income oil importing countries. These bankers anticipated high returns on investments.

The world economy weathered the first oil crisis without much difficulty. Initial debt levels were low enough that accumulation did not overly burden the world payments system. Furthermore, the infusion of large amounts of international capital into the world economy generated an international expansion led by export growth. For all non-OPEC developing countries, the total dollar value of exports was 2.5 times greater in 1980 than in 1975. Furthermore, real growth in gross domestic product (GDP) for all developing countries averaged 5 percent a year for this period (17).

If the oil price rise of 1973–74 set the stage for the large debt buildup, the second oil shock of 1979–80 set the stage for the world recession of 1980–83. The second oil price increase was more significant than the first one based on the far different policy responses in the developed world. The approach to the 1973–74 increase had been to find ways to recirculate petrodollars and to accommodate the jump in energy costs. The response to the 1979–80 increase, however, was for the major industrial countries to simultaneously undertake contractionary monetary policies. The world inflation that was initiated by the 1973–74 oil increase, but by no means limited to it, proved unacceptable to the West, and Western countries felt that only traditional

⁵ The shift to a floating exchange rate system for major currencies also contributed to the rise in world liquidity by reducing the overall demand for foreign exchange reserves.

measures could deal with the inflation.⁶ The sudden lowering of monetary growth sharply slowed the world economy, raised real interest rates, and made the debt a burden. The impact of the responses to the second oil shock induced the current repayment problems.

Monetary Policy in the Developed Countries

The growth in money following the oil price increase in 1979–80 differed sharply from that in 1973–74 (fig. 1). This represented an abrupt policy reversal in the United States and other major countries of the industrial world.

For developed countries as a whole, money (M1) increased at average annual rates of over 10 percent from 1971 to 1973, providing considerable liquidity for the raw-material price increases of 1972–74. This rise was followed by a slowdown in the growth of money in 1974.⁷ From 1976 through 1979 annual increases in money again averaged 10 percent. However, the oil price increases in 1979, were followed by 3 years of declining monetary growth. Furthermore, the rates of increase in money from 1979 through 1982 were all below that observed in 1974.

The growth rates in money during the seventies were high by postwar standards, giving the developing world two important benefits: increased demand for all goods and services and low real rates of interest. Rising inflation in the industrial West, as a consequence of the rapid money growth, gave a competitive edge to products in the developing world, especially labor-intensive semifinished and finished manufactured goods. Second, high growth rates in money depressed real interest rates, especially in the United States, making repayments easier.

The decline in monetary growth rates from 1979 through 1981 produced the severest of the postwar recessions. For industrial countries, real GNP growth fell well below 2 percent for 1980 and 1981. Real output stagnated in the industrial countries in 1982, compared with relatively robust growth rates, exceeding 3.5 percent per year, for most of the latter half of the seventies. The slow rise in income effectively curtailed demand for products of the previously burgeoning export sectors of the developing world.

Interest Rates

Market interest rates have grown in importance in loan repayments over the past 5 years. Loans extended at variable interest rates, based on the U.S. prime rate or the London Interbank Offered Rate (LIBOR), have become more and more popular as private creditors take an ever-larger share of total lending to developing countries. In particular, the rise in interest rates on dollar-denominated loans has contributed to the difficulties of countries like Mexico and Brazil in repaying their debts.

Real interest rates incorporating price changes provide a measure of the current opportunity cost of repaying debts. The U.S. real interest rate is derived by subtracting current inflation from nominal interest rates. The appropriate measure for debtor countries is the interest rates adjusted for changes in an index of their export prices. If export prices rise faster than contracted interest rates, the real rate is negative (20).

The effect of the first oil price increase is most evident in the 1973–74 values, when the rapid increase in export prices in all categories clearly exceeded nominal market interest rates (fig. 2). These increases were sharpest, producing the lowest of the real interest rates in the oil-exporting countries (fig. 3) and in North Africa. The major agricultural market countries for the United States faced highly negative interest rates while low-income African countries faced the least favorable situation (fig. 3). Negative interest rates strongly encouraged the desire to both borrow and lend, because real rates of return were somewhat higher in creditor currencies.

⁶ 1973–81 was a period of general price increases for raw materials, not only for oil. Although other resources did not, in general, increase in value as drastically as did oil, their increases were nonetheless dramatic. Examples, for the period 1972–80, include a quadrupling of the dollar prices of bauxite and rubber, a tripling of prices for aluminum and coffee and a doubling of prices for nickel, copper, and manganese (18).

⁷ This slowdown produced a temporary rise in real interest rates in 1975.

Figure 1
Changes in Money Supply (M1)

Annual percent change

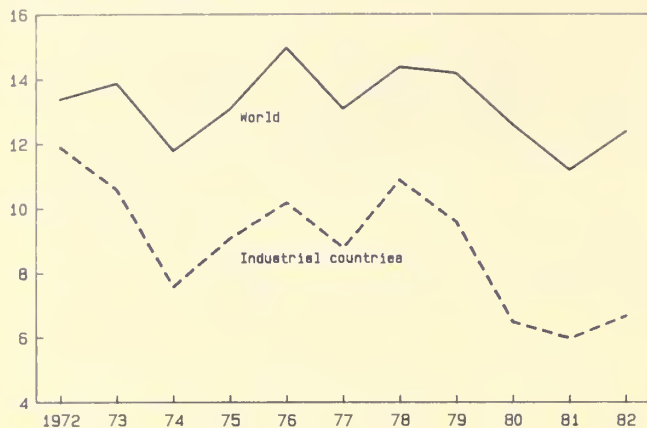


Figure 2
Interest Rates Adjusted by Change
in Export Prices

Percent

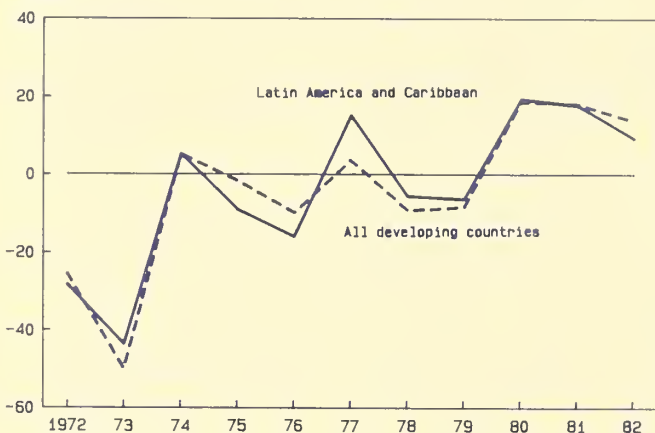


Figure 3
Interest Rates Adjusted by Change
in Export Prices

Percent

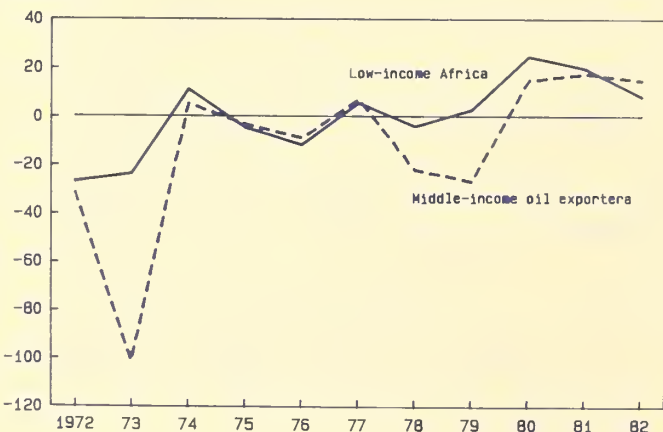


Figure 4
Interest Rates Adjusted by Change in
Export Prices, Period Averages, All
Developing Countries

Percent

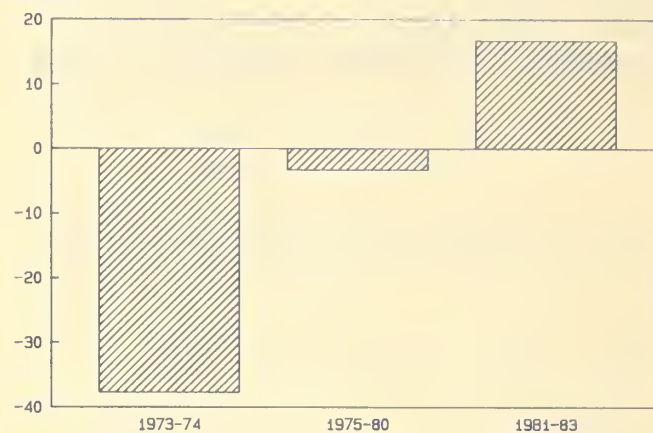


Figure 5
Real Exchange Rates Weighted by
Agricultural Trade

Annual percent change

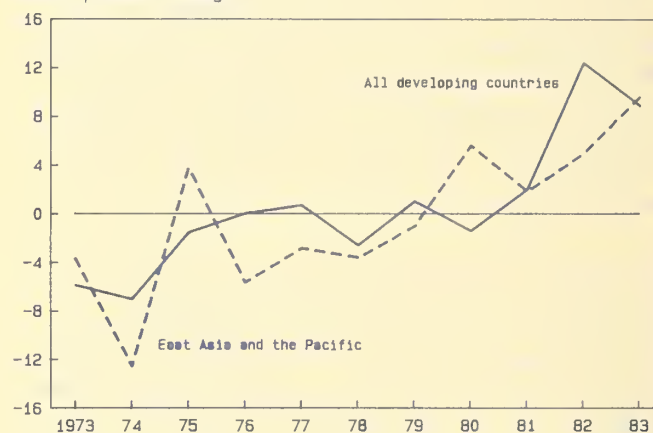
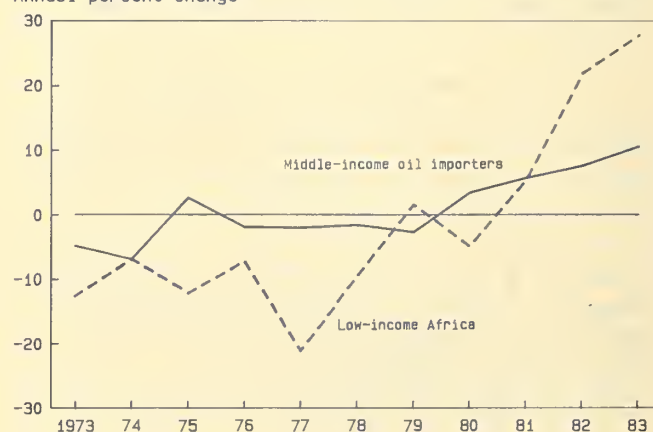


Figure 6
Real Exchange Rates Weighted by
Agricultural Trade

Annual percent change



The effects of monetary policy changes in the industrial countries during the seventies can be clearly seen in figures 2–3. Declines in the monetary growth rate in 1974 and in 1977 produced positive real interest rates in 1975 and 1978, the only 2 years between 1973 and 1979 when this happened.

The sharpest increases in real interest rates in 1978 occurred in Latin America and the countries in the debt-affected group (fig. 2). Repayment problems proved most severe in these countries. Real interest rate changes during the seventies showed the greatest variability in low-income Africa.

Comparing the outcomes for 1973–74 and 1979–80 yields quite different results (fig. 4), a reflection of the change in policy response by the developed world. The second round of oil price rises led to overtly negative real interest rates in 1979–80. However, the interest rates in the latter period, in absolute terms, did not approach those in 1973–74. This was particularly true for the groupings of All Countries, Major Borrowers, Major Markets, and East Asia and the Pacific. From 1981 into 1983, real interest rates faced by all developing countries not only turned positive, but remained well above any rates in recent history.

From 1975 to 1980, real interest rates averaged a negative 3 percent. From 1981 to 1983, the average jumped over 20 points, to plus 17 percent.

Real interest rates after the second oil shock were not negative as they had been following the 1973–74 oil price increase. Continued and rapid debt accumulation indicates that the major borrowers and oil importers probably anticipated negative interest rates. Loans initiated in the 1979–81 period, especially indicated by the increase in short-term liabilities in 1980, resulted in repayment schedules which borrowers could not meet. The recession in the West and the resulting fall in export prices forced countries to make unanticipated and increasing real payments as interest rates, particularly on dollar loans, edged upward.

The Foreign Exchange Value of the Dollar

The real depreciation of the U.S. dollar that occurred against the aggregate of currencies

of the 93 countries, from 1972 through 1980, has completely reversed in the past 3 years (fig. 5). The U.S. dollar, in real terms, is at its highest level against the currencies of the developing world since the collapse of the Bretton Woods exchange rate system in 1973.

The Federal Reserve's monetary restraint policy and the rapid rise in the U.S. budget deficit produced historically high real interest rates in the United States. This led to significant real capital inflows to the United States during this period, in sharp contrast to the outflows over much of the seventies. Some of that investment unquestionably came at the expense of the developing world.

The U.S. dollar generally appreciated against currencies in the developing world during the seventies. The dollar experienced sustained weakness against the currencies of the middle-income oil-exporting countries in 1972–75, low-income African countries in 1972–80, and East Asian countries in 1976–80 (figs. 5–7). After 1980, however, the foreign exchange value of the dollar increased exponentially against currencies of the developing countries, the only exceptions being the nations of Asia (both South and East Asia) and North Africa. The dollar's nominal appreciation since 1980 has been most rapid against the currencies of Latin America, the debt-affected countries, and Europe and the Mediterranean (fig. 8). This can be seen clearly by looking at the pattern of annual percent changes in real exchange rates (fig. 9).

Developed countries use exchange rates, either intentionally or unintentionally, as policy instruments (11). Very few of the developing countries' currencies float freely in foreign exchange markets, as is the case with the currencies of industrial countries. Instead, the governments of most developing countries fix the value of domestic currency to one or more major currencies (such as standard drawing rights from IMF). Exchange rate movements, generally, are abrupt and disrupt both the external and domestic economy. Most adjustments occur at infrequent intervals and as the result of severe external pressure. For a currency to depreciate, or for a government to undertake such a strong measure, the sum of export earnings plus new financing must be below the sum of imports plus debt repayments for a long period. Foreign exchange reserves may have also

Figure 7
Real Exchange Rates Weighted by
Agricultural Trade

Annual percent change

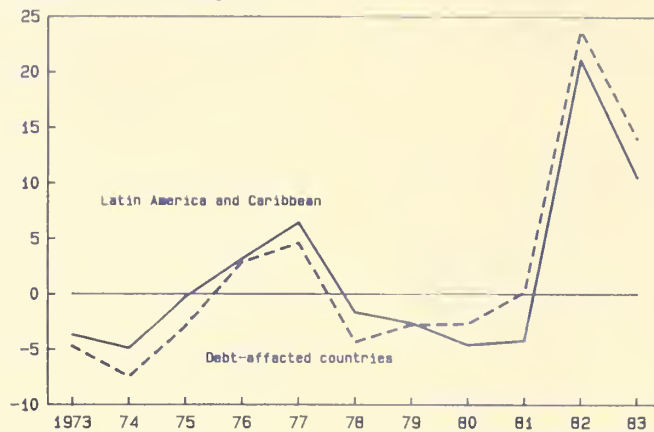


Figure 8
Nominal Exchange Rates Weighted by Agricultural
Trade, Debt-Affected Countries

Index (1980=100)

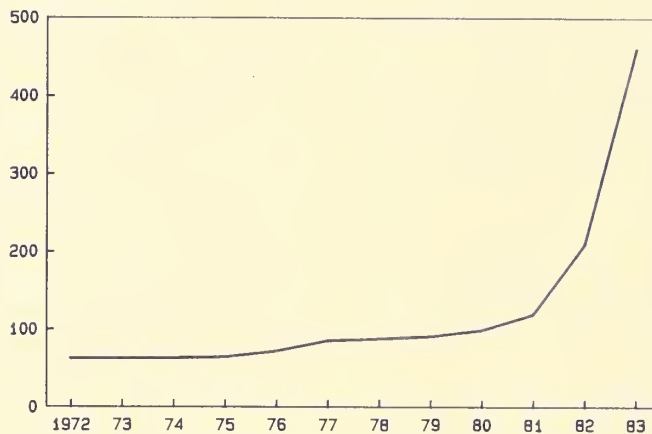
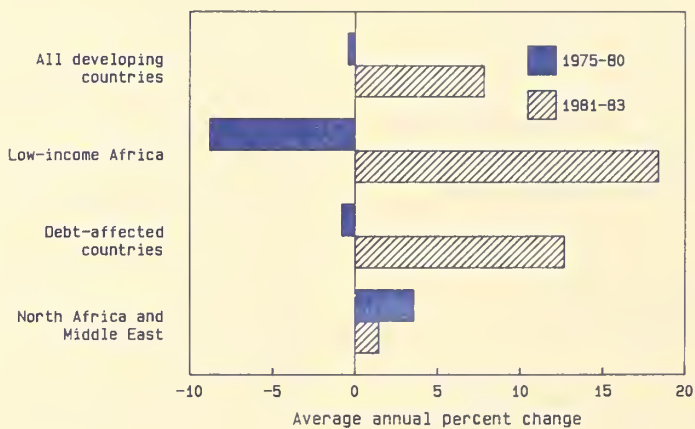


Figure 9
Real Exchange Rates Weighted by
Agricultural Trade



fallen below desired levels.⁸ In 1982, financing flows began to fall. Devaluation became necessary to encourage exports.

Debt-affected countries and Latin America both had real currency depreciations of over 20 percent in 1982. Such a significant adjustment implies a serious constraint to purchasing imports or repaying debts or both. Domestic adjustments to such an exchange rate change would have to be substantial. On the other hand, the depreciations would also indicate the degree to which the currencies were allowed to remain overvalued for a long period of time. Such an overvaluation encourages imports of goods and services which generate development.

Comparing exchange rate changes between the 1975–80 period and the 1981–83 period also illustrates the significantly different policy responses to the first and second oil shocks. Whereas, the dollar declined in relative value against all developing countries' currencies with the exception of North Africa and the Middle East, it rose significantly on average in the 1981–83 period.

Generally, then, the debtor nations were caught in a difficult situation. They had taken U.S. dollar-denominated loans that they thought would continue to depreciate in real terms. Instead, they were faced with loan principals increasing in real value, along with rising real interest payments.

Current Account Deficits

A major factor associated with debt accumulation by developing countries during the seventies was an increase in trade deficits. External financing allowed governments to pursue policies which allowed imports to exceed exports. In 1981 and 1982, the percentage increase in exports for the 93 developing countries was much lower than in the preceding 5 years (fig. 10). It is likely the decline in the export growth rate in 1981 led to reduced financing in 1982, which explains the 1982 drop in imports. Countries restricted imports as a response to curtailed capital inflows.

⁸ In fact, foreign exchange reserves in Mexico dropped to zero in 1982, effectively halting all foreign trade.

The most severely affected region appears to be low-income Africa (fig. 11). Both imports and exports, measured in current dollars, declined over 1981 and 1982. Low-income Asia, on the other hand, appears to have adjusted quickly to its external constraints (fig. 12). The drop in exports in 1981 was accompanied by a stagnation in imports and a subsequent reduction in the deficit in 1982. The oil-exporting countries also faced trade deficits, despite the 1978–79 petroleum price increases (fig. 13).⁹ Sub-Saharan Africa faced further deterioration in its external accounts, as exports fell faster than imports in 1981 and 1982 (fig. 14). Latin America also had declines in both exports and imports in 1982, but succeeded in narrowing its overall payments gap (fig. 15).

Figures 16–21 are measures of real trade volume, based on import and export values in dollars. Changes in the real trade deficits indicate whether cutbacks or expansions have occurred in exports or imports or both. Real trade deficits give some indication of the effects of the world recession on unit trade prices, when compared with the dollar trade flows.

The export volume for all 93 countries (fig. 16) increased faster in 1982 from 1981 than in any other year-to-year period during the period studied. For the aggregate of all developing countries, foreign exchange constraints led to implicit or explicit policies that forced export promotion. Import quantities also increased, but more slowly than at any time in the 1974–82 period. Efforts to reduce external disturbances therefore affected both exports and imports.

Import volume has been declining in low-income Africa since 1977 (fig. 17), indicating the poor ability of these countries to produce income from trade. Oil importers (fig. 18) have also curtailed imports since 1979 in forced efforts to find and use petroleum-saving energy sources. Countries known for labor-intensive production, such as in East Asia and the Pacific (fig. 19), have seen a sharp rise in exports. Export volume has also

⁹ The only OPEC countries included are Indonesia, Nigeria, Venezuela, and Algeria. Other OPEC countries did maintain current account surpluses over the period.

Trade in Goods and Services

Figure 10
All Developing Countries

Billions of current dollars

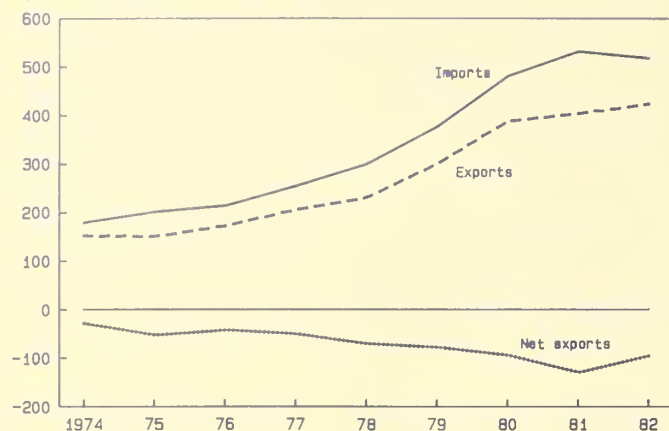


Figure 13
Middle-Income Oil Exporters

Billions of current dollars

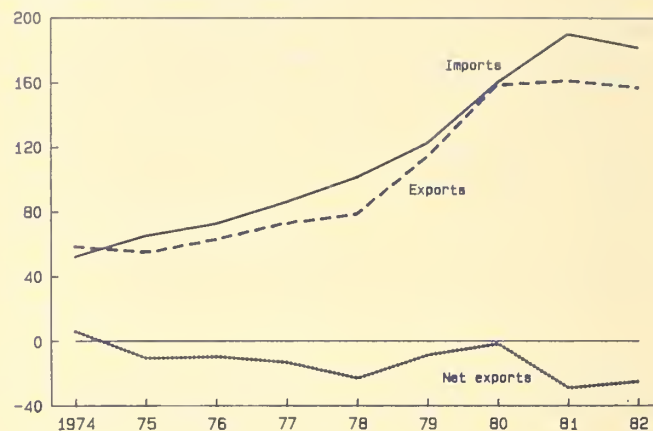


Figure 11
Low-Income Africa

Billions of current dollars

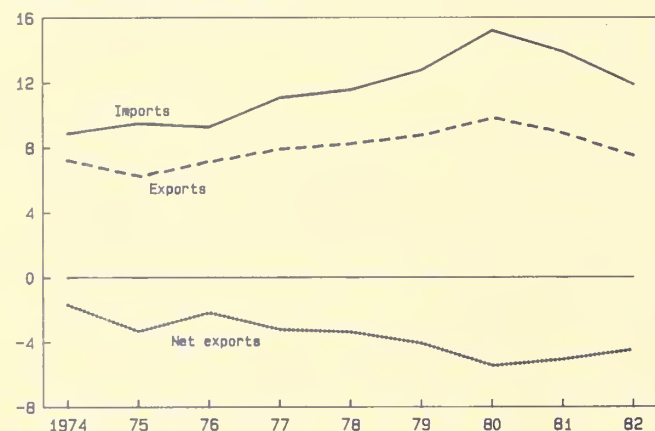


Figure 14
Africa, South of the Sahara

Billions of current dollars

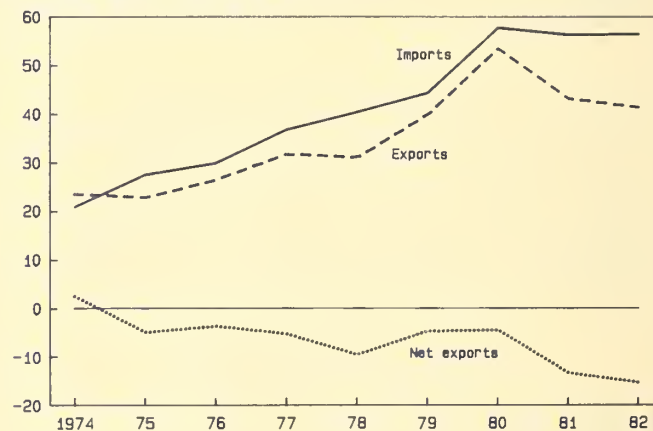


Figure 12
Low-Income Asia

Billions of current dollars

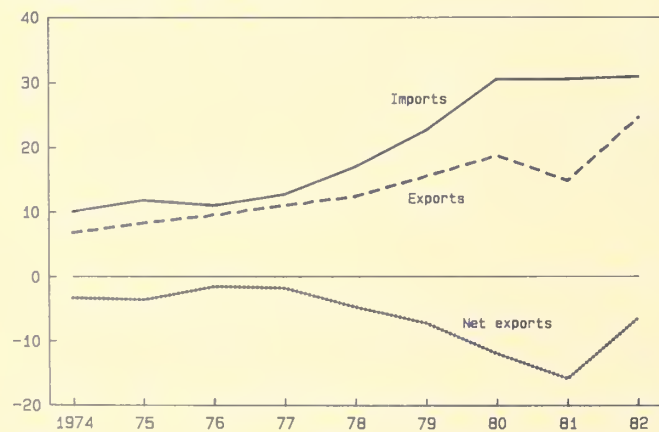
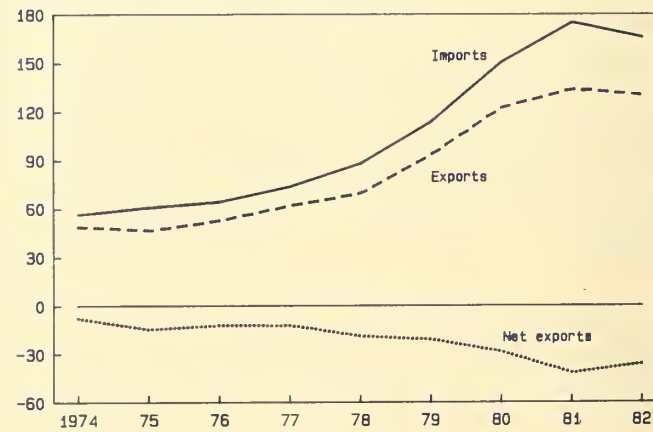


Figure 15
Latin America and Caribbean

Billions of current dollars



Real Trade in Goods and Services

Figure 16
All Developing Countries

Billions of 1980 dollars

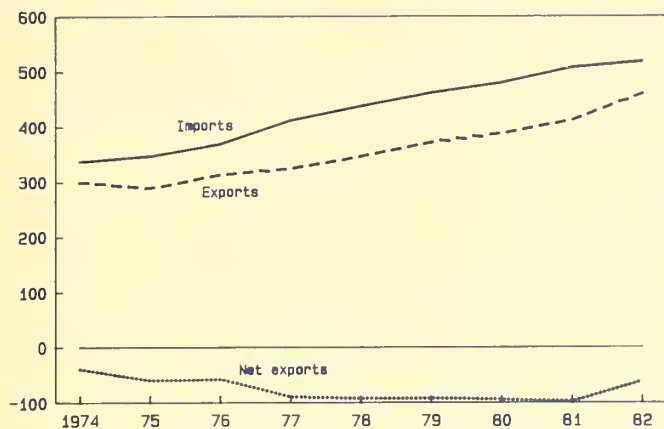


Figure 19
East Asia and the Pacific

Billions of 1980 dollars

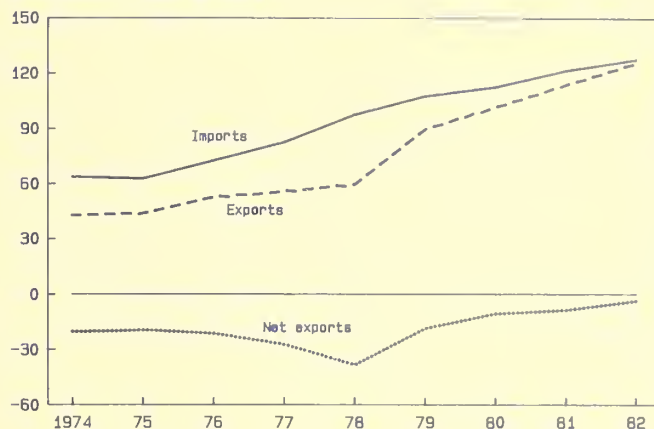


Figure 17
Low-Income Africa

Billions of 1980 dollars

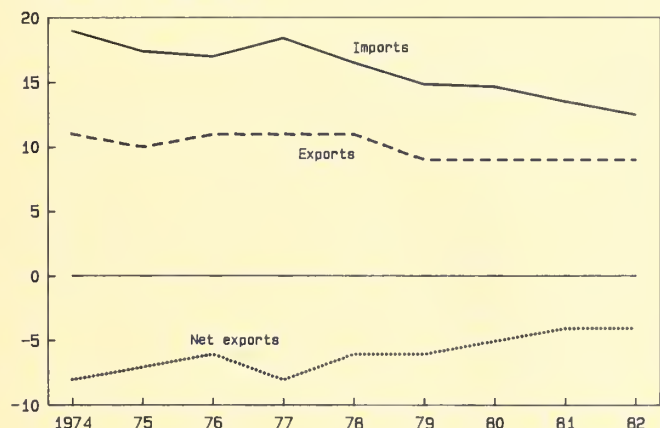


Figure 20
Latin America and Caribbean

Billions of 1980 dollars



Figure 18
Middle-Income Oil Importers

Billions of 1980 dollars

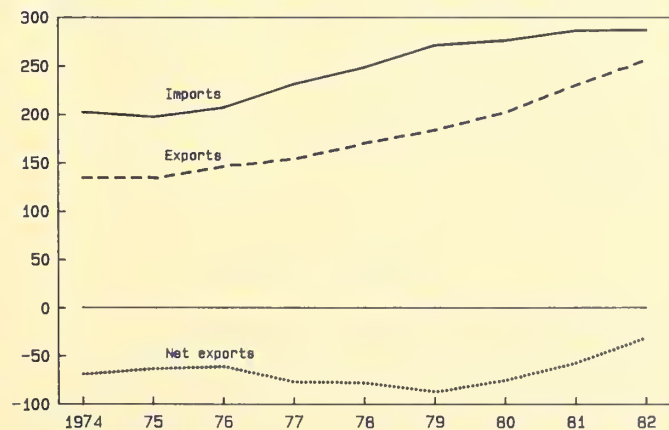
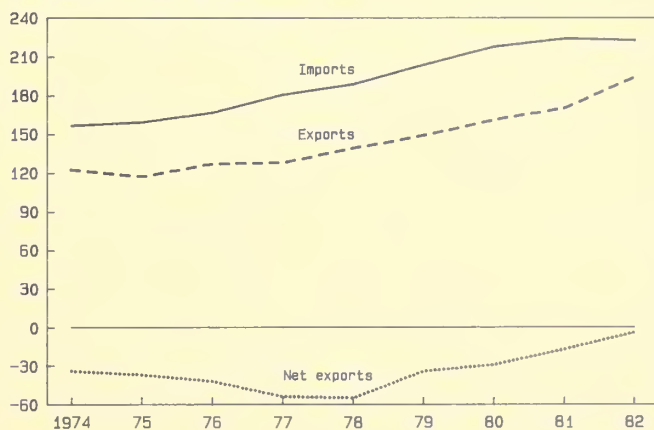


Figure 21
Debt-Affected Countries

Billions of 1980 dollars



risen rapidly, since 1978, in Latin America (fig. 20). As might be expected, the debt-affected countries (fig. 21) have also made strong efforts at increasing exports. Export volume increased from 1981 to 1982 in percentage terms at 1.5 times the average high over 1974-81.

Government Financing

Since 1972, the governments of the 93 developing countries have generally followed a policy of deficit financing: total domestic revenues from taxation have been consistently less than total expenditures (fig. 22). The shortfall in government revenues must be generated by the use of government finance techniques such as borrowing.

Government deficits declined from 1975 to 1979 in debt-affected countries as a proportion of total expenditures (fig. 22). However, the increase from 1979 to 1981 was even greater. The slight improvement in 1982 implies a general cutback in government services as availability of external financing began to fall off. Major market countries for U.S. agriculture also experienced an equally sharp decline in government revenues in 1980 and 1981 (fig. 22).

The sharpest drop occurred in Sub-Saharan Africa, with revenues falling from almost 81 percent to just below 73 percent of expenditures in 1 year (fig. 23). Similarly, in Latin America, revenues declined from 93 percent to 85 percent over 2 years. In contrast, the countries in East Asia and the Pacific have had virtually no change in revenue percentage over the 6 years between 1976 and 1982, with revenue remaining near 88 percent of government expenditures (fig. 23).¹⁰ The variation in the relative government deficit was largest in the categories of oil exporters, major borrowers, and major markets (figs. 22 and 23). The governments of East Asia clearly demonstrated more fiscal restraint than those of other developing countries.

Government deficits as a proportion of GDP also reveal an interesting pattern. For all

developing countries, deficits as a percentage of the percent of deficits to GDP increased in 1980 and 1981, but not as much as in 1975 and 1976 (fig. 24). However, two of the country groupings, Latin America and the middle-income oil importers, had government deficits which were a larger proportion of GDP in 1980 and 1981 than in 1975 and 1976. In both situations, the source of funds to finance the government deficits had to be money creation.

Inflation

Domestic inflation accelerated sharply in each country grouping beginning in 1980, with the notable exception of East Asia and the Pacific. The fastest increases occurred in the oil importing countries (fig. 25) and Latin America, the two groupings noted in the previous section as having the sharpest increases in the ratios of government deficit to GDP. Major borrowers and debt-affected countries also experienced a doubling of domestic prices in 1983, with significant increases in the previous 3 years.

Figure 26 shows average rates of consumer price increases in each of two periods, 1975-80 and 1981-83. For all 93 developing countries, the rate of inflation was 3.5 times higher in 1981-83 than in 1975-80. Price increases averaged four times higher for oil importers, major borrowers, and debt-affected countries. Consumer prices rose three times as fast in Latin America, where price increases were already the highest of any country category. The countries of East Asia and the Pacific, however, had lower average consumer price increases in 1981-83 than in 1975-80.

Domestic inflation in countries with tightly controlled foreign exchange regimes acts as a tax on exports and could lead to contractions in the export sectors of many developing countries. It further tends to slow the development process by reducing the incentives for real investment from domestic sources.

Terms-of-Trade

The sustained decline in net barter terms-of-trade from 1978-83 and the stagnation in the income terms-of-trade reflect pressure on the trading sectors in the

¹⁰ We excluded the Philippines, however, because data consistent with other countries in the region were unavailable.

Figure 22
Deficit Financing as a Ratio of Government Revenue to Expenditure

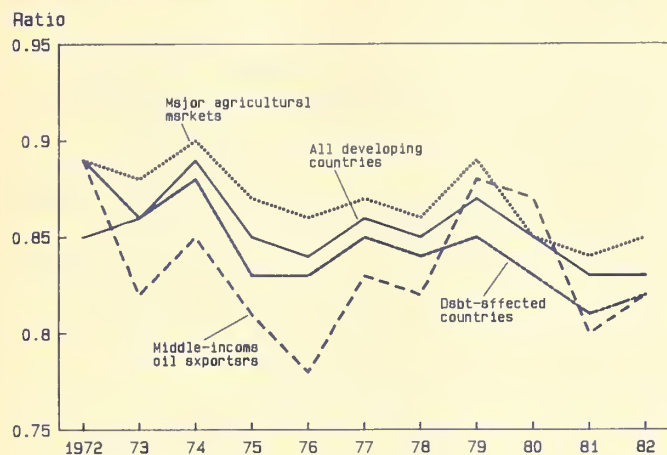


Figure 23
Deficit Financing as a Ratio of Government Revenue to Expenditure

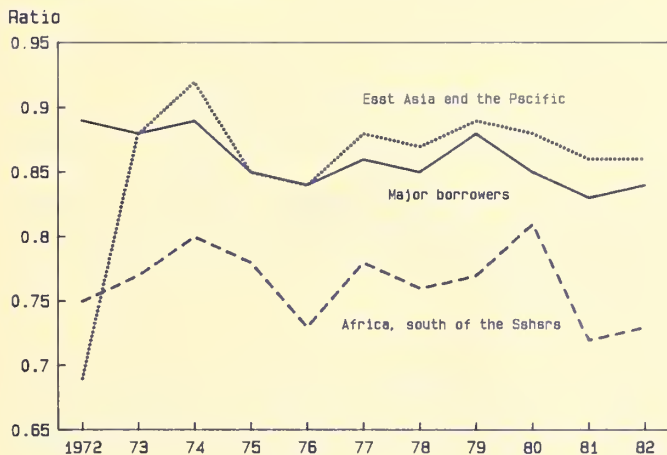


Figure 24
Government Deficits as a Percent of Gross Domestic Product

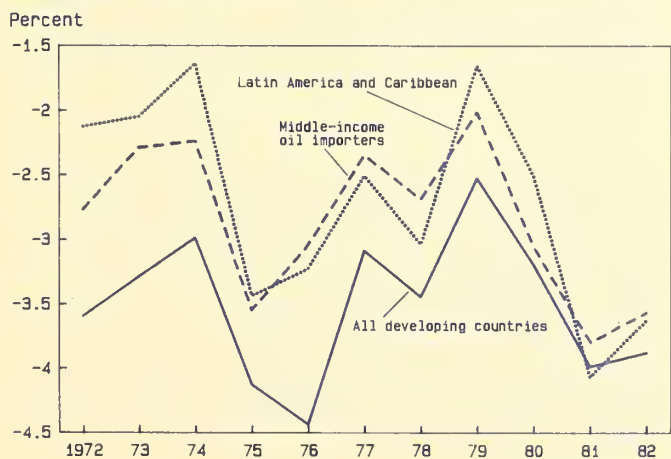


Figure 25
Consumer Price Indices Weighted by Gross National Product

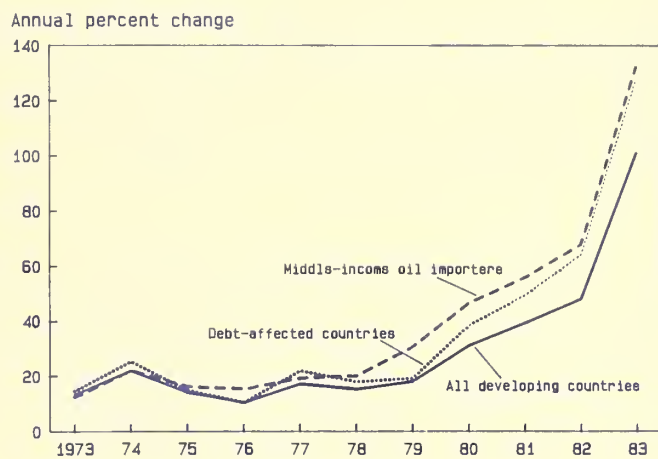


Figure 26
Consumer Price Indices Weighted by Gross National Product

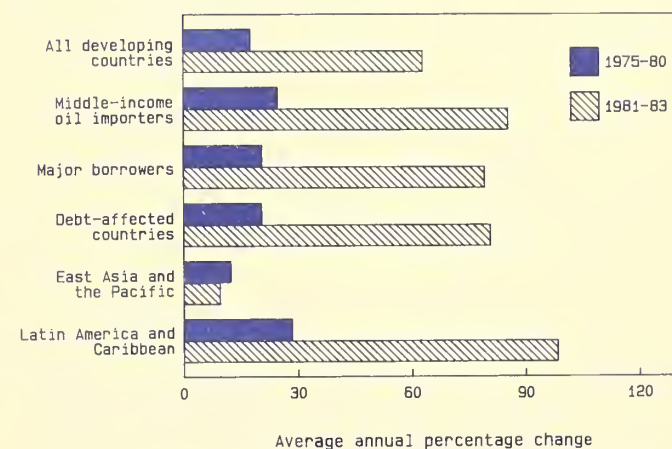
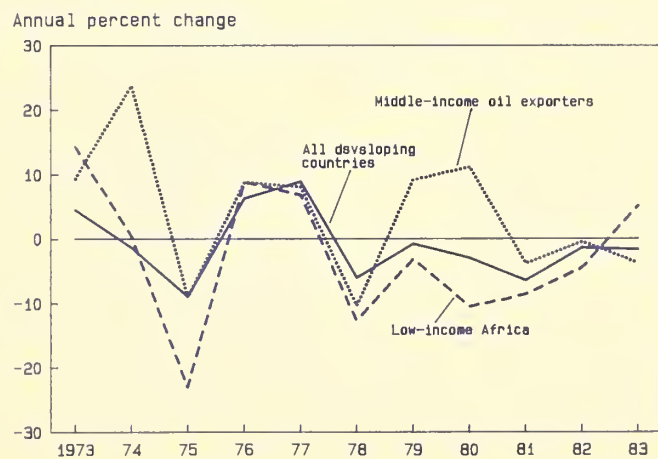


Figure 27
Barter Terms of Trade



developing world (figs. 27 through 30).¹¹ These are partially due to changing external circumstances as well as internal conditions. The recession in the West led to a slowdown in the rate of growth, and then decline, in exports and export prices. Export promotion policies also served to raise the volume of exports, as well as contribute to lower unit prices.

The largest cumulative declines in barter terms-of-trade into 1982 included low-income Africa, Latin America, and the debt-affected countries. The last group clearly shows the effects of the oil price increases in 1973 with declines in the barter terms-of-trade in 1974 and 1975, but followed by increases in 1976 and 1977. The fall in the barter terms-of-trade after the oil shock of 1978-79 shows no such recovery. The cumulative rise was greatest in the oil-exporting countries. The oil-exporters and the oil-exporting region of North Africa and the Middle East had the only rise in net barter terms-of-trade over the same period.¹²

Latin American countries showed the largest 1-year change in barter terms-of-trade, moving from a 15-percent increase in 1977 to a minus 15 percent the following year. No other region closely approached such variation.

Declining export growth along with falling commodity prices provided the impetus for the slowdown in the gains from trade beginning in 1981. The declines in low-income Africa and Sub-Saharan Africa countries indicate the severe negative impact of external shocks on countries whose trading sectors are both very small as a proportion of GNP and inflexible in terms of commodity composition and market share. Very sharp declines in the growth rate of income terms-of-trade are also evident in Latin America and the debt-affected countries. All categories (except low-income

Africa) had increases in the income terms-of-trade from the first oil price increase through 1980.

In sharp contrast, the countries of East Asia and the Pacific had sustained increases in their income terms-of-trade, with the exception of 1975. These countries do have large and diverse external sectors which adjust well to external conditions. On average, exports account for 41 percent of GNP in that region, with several countries having even larger proportions. East Asia and the Pacific also had the second lowest variation in changes in barter terms-of-trade (after Europe and the Mediterranean); import and export prices remained more predictable and conducive to stability. The other countries with fairly positive external sectors, as measured by the income terms-of-trade, are in Europe and the Mediterranean and middle-income oil importers.

DEBT RESCHEDULING: SYMPTOMS OF WORLD DEBT PROBLEMS

An assessment of the number and type of debt reschedulings that have occurred in the post-Korean period indicates the symptoms of the problem.

Figure 31 summarizes debt reschedulings since 1956. In the period through 1965, there were eight negotiations involving four countries and a total of slightly more than \$2 billion.¹³ Between 1966 and 1975, seven countries engaged in 22 negotiations involving \$6 billion.¹⁴ In the next period, 1976-80, 11 countries rescheduled debt in 23 negotiations with a total of approximately \$13.5 billion at stake.¹⁵ Finally, between 1981 and 1983, 25 countries were involved in 38 negotiations

¹¹ The net barter terms-of-trade is defined as the ratio of import to export prices while the income terms-of-trade is defined as the product of the net barter terms-of-trade and the quantity of exports (17).

¹² The Sub-Saharan African countries show a similar increase, but the weights are dominated by the oil-exporting countries of that region: Nigeria, Gabon, Cameroon, and Congo.

¹³ The four countries between 1956-65 were Argentina, Turkey, Brazil, and Chile.

¹⁴ The seven countries between 1966-72 were Cambodia, Chile, Ghana, India, Indonesia, Pakistan, and Peru.

¹⁵ The 11 countries between 1976-80 were Bolivia, Jamaica, India, Liberia, Nicaragua, Peru, Sierra Leone, Sudan, Togo, Turkey, and Zaire.

Figure 28
Barter Terms of Trade

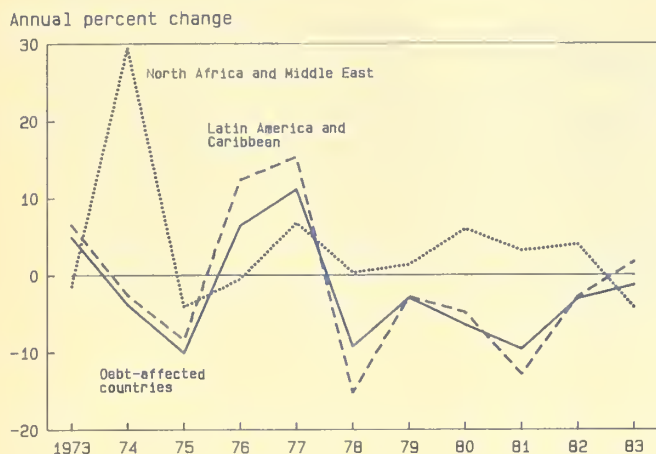


Figure 29
Income Terms of Trade

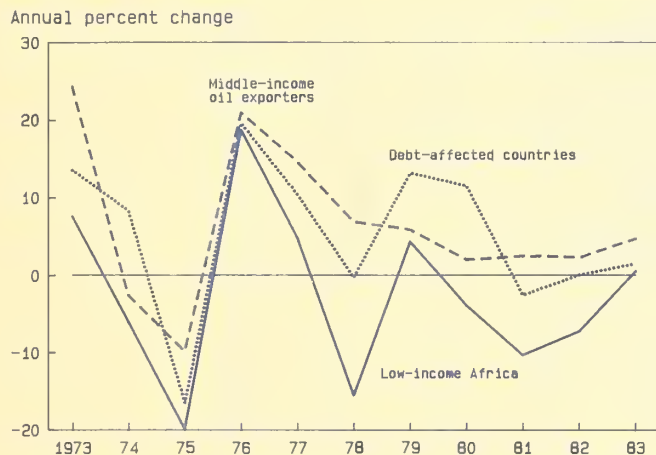


Figure 30
Income Terms of Trade

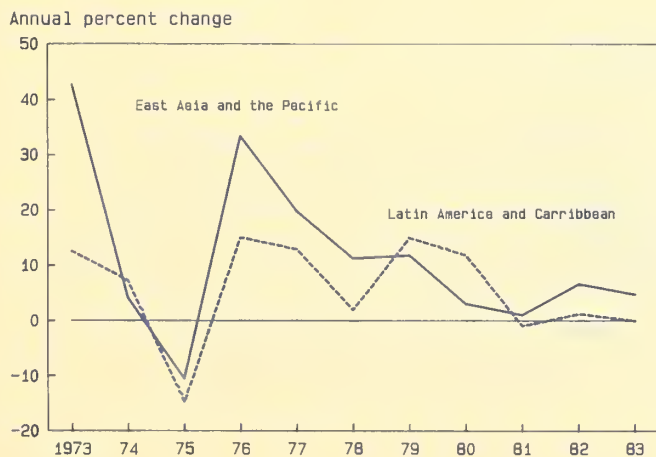


Figure 31
Debt Rescheduling and Negotiations
for All Developing Countries

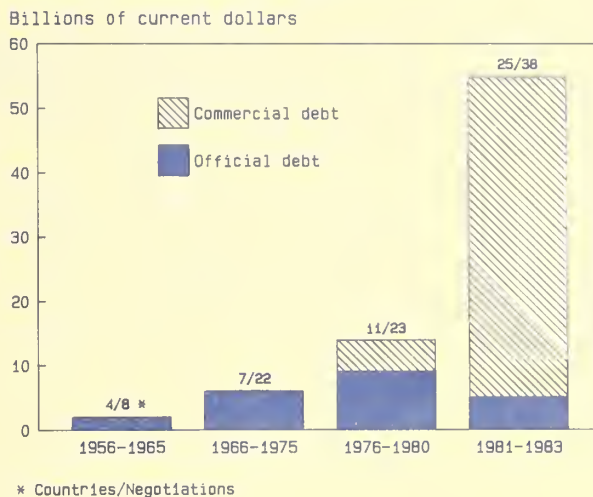


Figure 32
Debt Rescheduling and Negotiations
for Major Agricultural Markets

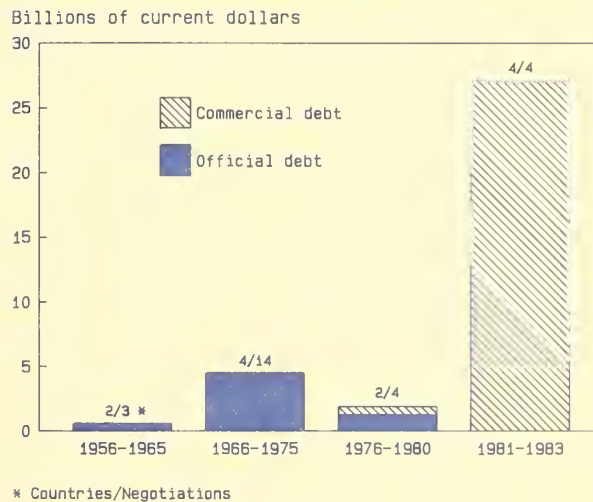
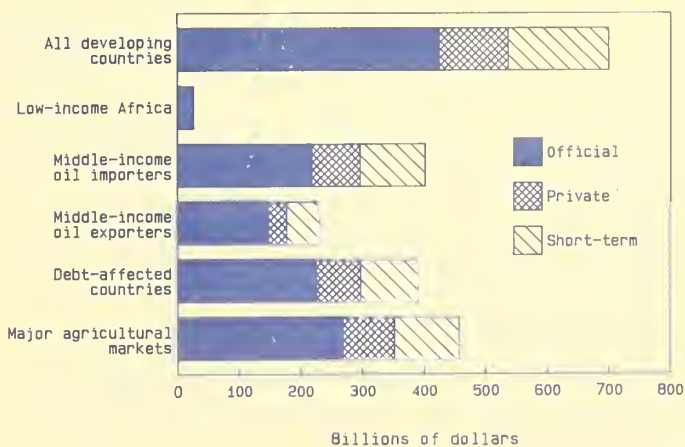


Figure 33
Debt Structure, Country Categories, 1982



totaling \$55 billion.¹⁶ This pattern appears to be continuing and the current prospects of rising interest rates could make things even worse.¹⁷ With regard to the issue of U.S. agricultural exports, our major trading partners accounted for 50 percent of the debt affected by negotiation in 1981-83 (fig. 32).

The seriousness of the current situation is best illustrated by considering the degree of bank capital at risk with the major indebted developing countries (3). The 15 largest U.S. banks, on average, have more than 100 percent

of their bank capital at risk with the five major Latin American borrowers alone (table 1). Significant country defaults would put the solvency of the major world banks in question. Furthermore, because of the interrelatedness of the international bank portfolios, a series of defaults would place the entire international financial and payment systems supporting international trade at risk. The problems faced by Continental Illinois, one of the 15 banks, is but a small indication of what it would take to keep the system going.¹⁸

Table 1--Loans by major banks to selected Latin American countries as of end 1982

Bank	Debtor country					Total	Bank capital
	Argentina	Brazil	Mexico	Venezuela	Chile		
	Percent of bank's capital ¹						Million dollars
Citibank	18.2	73.5	54.6	18.2	10.0	174.5	5,989
Bank of America	10.2	47.9	52.1	41.7	6.3	158.2	4,799
Chase Manhattan	21.3	56.9	40.0	24	11.8	154.6	4,221
Morgan Guaranty	24.4	54.3	34.8	17.5	9.7	140.7	3,107
Manufacturers Hanover	47.5	77.7	66.7	42.4	28.4	262.8	2,592
Chemical	14.9	52.0	60.0	28	14.8	169.7	2,499
Continental Illinois	17.8	22.9	32.4	21.6	12.8	107.5	2,143
Bankers Trust	13.2	46.2	46.2	25.1	10.6	141.2	1,895
First National of Chicago	14.5	40.6	50.1	17.4	11.6	134.2	1,725
Security Pacific	10.4	29.1	31.2	4.5	7.4	82.5	1,684
Wells Fargo	8.3	40.7	51.0	20.4	6.2	126.6	1,201
Crocker National	38.1	57.3	51.2	22.8	26.5	196.0	1,151
First Interstate	6.9	43.9	63.0	18.5	3.7	136.0	1,080
Marine Midland	NA	47.8	28.3	29.2	NA	NA	1,074
Mellon	NA	35.3	41.1	17.6	NA	NA	1,024
Irving Trust	21.6	38.7	34.1	50.2	NA	NA	966
First National Boston	NA	23.1	28.1	NA	NA	NA	800
Interfirst Dallas	5.1	10.2	30.1	1.3	2.5	49.2	787

NA = Not available.

¹ Bank capital includes shareholders' equity, subordinated notes, and reserves against possible loan losses.

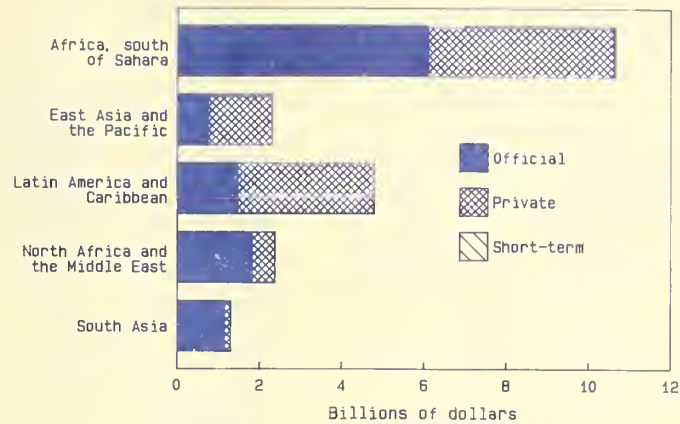
Source: (3).

¹⁶ The 25 countries between 1981-83 were Argentina, Bolivia, Brazil, Central African Republic, Chile, Costa Rica, Cuba, Ecuador, Guyana, Jamaica, Liberia, Madagascar, Malawi, Mexico, Nicaragua, Pakistan, Poland, Romania, Senegal, Sudan, Togo, Turkey, Uganda, Yugoslavia, and Zaire.

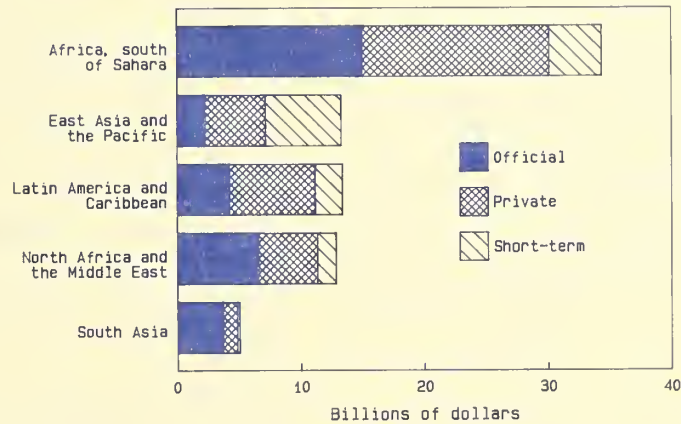
¹⁷ Martin Feldstein argues that "a rise of two percentage points or more might make current financial arrangements unsustainable" (9).

¹⁸ It took the combined resolve of the Federal Reserve and Federal Deposit Insurance Corporation as well as a major consortium of bank loans to keep Continental Illinois operating. All of this was caused by an interbank loan loss of only \$1 billion, a magnitude which is small compared with what is at risk with the debtor countries.

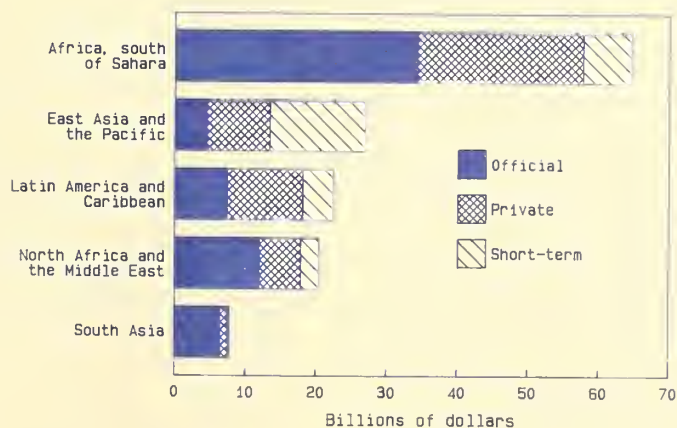
Figure 34
Regional Debt Distribution for
All Developing Countries, 1974



Regional Debt Distribution for
All Developing Countries, 1979



Regional Debt Distribution for
All Developing Countries, 1983



TRENDS IN DEBT ACCUMULATION, COMPOSITION, AND RATIOS

Total debt for the 93 countries reached about \$700 billion in 1982 and about \$750 billion in 1983 (fig. 33). This should be viewed as a lower bound to the debt of developing countries because there are several categories of debt not included in these figures.¹⁹ For example, the authors estimated short-term debt from Bank for International Settlements (BIS) statistics on bank liabilities to individual countries (2). However, many financial institutions are not BIS members; hence, the total is underestimated. Nonfinancial institutional debt is not included and could be substantial. The authors also did not include International Monetary Fund (IMF) loans. However, the total figure appears to agree with other published estimates (2, 5, 7).²⁰

The incidence of debt is not uniform throughout the categories or the countries. The middle-income oil importers account for a very large percentage of the total debt outstanding (53 percent).²¹ They also have a relatively high incidence of private debt (46 percent). However, the most seriously affected by short-term and private debt are the countries in Latin America and East Asia (fig. 34). Each of these groupings has approximately 25 percent of its total debt in the short-term category.

¹⁹ The total would be \$200 billion higher if the short-term and commercial liabilities of Singapore, the Bahamas, and Liberia were included. These are large-scale offshore banking centers; the authors assumed that significant amounts of recorded private liabilities of these three countries are the equivalent of branch deposits of Western commercial banks and did not include them as debt.

²⁰ There is an effort underway to improve the quality of debt statistics. A new International Financial Institute has been set up by major international commercial banks for this purpose. In addition, the BIS and OECD have been working together to produce a more accurate series on private and short-term debt. Initial estimates are already available for mid-1983.

²¹ Note that the categories are not exclusive and, therefore, do not necessarily add to the total.

Our major agricultural market countries, a group of 18 countries which purchased more than \$200 million in commercial agricultural imports from the United States during at least 1 year over the period 1979–81, is the most seriously affected group of all, accounting for almost two-thirds of the total debt of the 93 countries. Those 18 countries also have more than 40 percent of their debt in the private and short-term categories. Private and short-term debts are usually on variable interest rate terms. Under situations with high variability in rates, as we have observed over the period 1973–83, large percentages of short-term debt create the preconditions for repayment problems.

The regional distribution of debt is also heavily concentrated (fig. 35). Latin American countries hold almost half of total debt. Mexico and Brazil are the two largest debtor nations while Argentina, Venezuela, and Chile are also major debtors. There are, however, other significant debtor countries in Asia (the Philippines, Korea, and Indonesia) and in Europe (Yugoslavia, Poland, and Romania), as well as in North Africa and the Middle East (Egypt, Israel, and Turkey). The debtor nations in southern Africa and South Asia are not as significant in volume terms, but their debt problems tend to be associated with low-income countries, many of whom are facing serious food crises.²²

The increase in short-term debt is a relatively recent phenomenon. Rapid increases in short-term and private debt apparently only occurred in significant quantities after 1973, although no pre-1978 data on such liabilities exist on a country level. The increase in short-term debt in 1980 is particularly revealing as a preliminary indication of the problems to follow (fig. 36). One can interpret the rise in short-term debt as a national response to what was perceived as a period of unusually high nominal interest rates, the late seventies and early eighties. Interest rates remain high, and real interest rates are historically high although nominal interest rates have fallen significantly from their 1981 highs. The strategy of short-term borrowing for what became long-term use has not, in hindsight, turned out very well.

²² For a discussion of these issues see (26).

Figure 35
Percent Distribution of Debt by
Major Geographic Areas, 1982

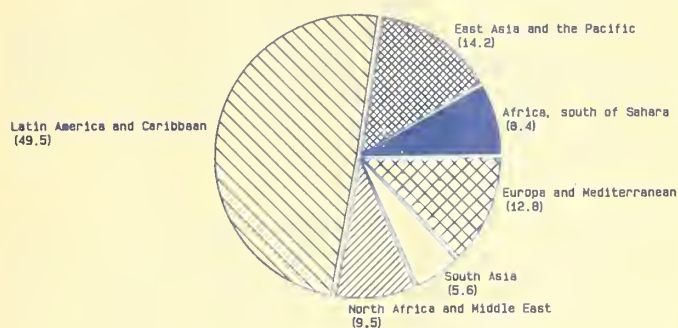


Figure 38
Net Adjustment by Country Categories, 1982



Note: Categories are not mutually exclusive.

Figure 36
Annual Growth Rate of Debt for
All Developing Countries

Annual percent change

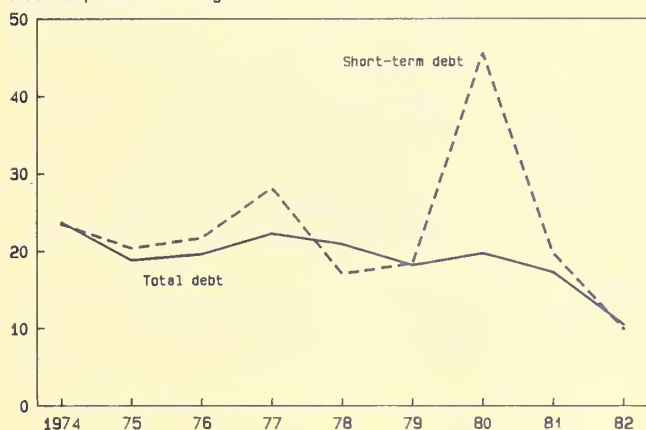


Figure 39
Debt Ratios, Country Categories, 1982

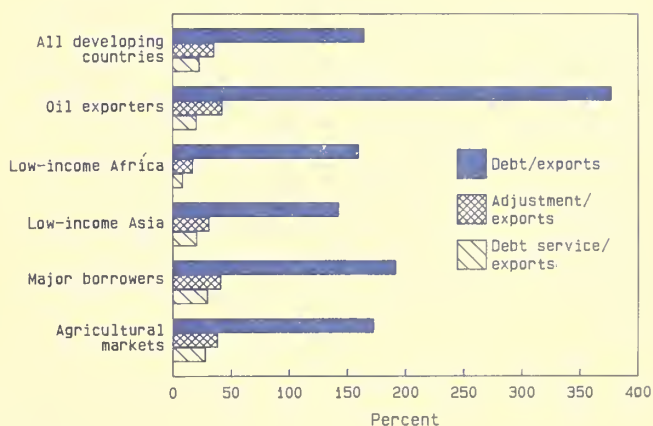


Figure 37
Annual Growth Rate of Debt

Annual percent change

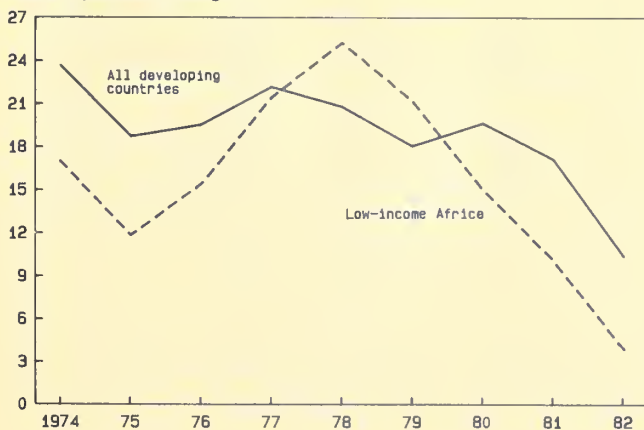
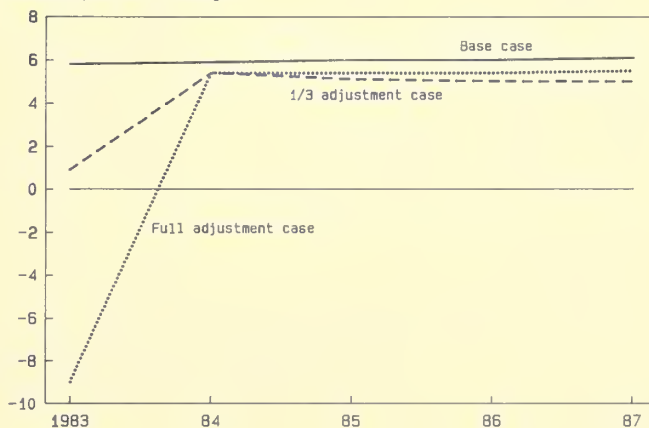


Figure 40
Projected Gross National Product Growth Rates,
All Developing Countries

Annual percent change



If the composition of debt indicates the serious imbalance between the period of investment return and payment commitments, the growth in debt over the period since 1973 indicates a trend which will be difficult and unlikely to continue. Between 1973 and 1982, there was almost a fivefold increase in nominal debt levels. Debt, on average, grew more than 20 percent per year, faster than either GNP or exports (fig. 37). The aggregate numbers hide the significance of what was really taking place. With the concentration of debt in selected categories, the growth in debt by individual countries greatly exceeded the average. The sharp rise and then fall in debt accumulation in low-income African countries foretold the current food crisis occurring in many of these countries now. The rapid growth in debt is a symptom indicative of fundamental disequilibrium in the international trading system over this period.

With only minor exceptions, the 93 countries included in the analysis were running deficits on current accounts. The net adjustment figure measures how far away each country or country grouping is from achieving payments equilibrium. In total, at the end of 1982, the 93 countries needed more than \$150 billion in order to make the interest payments on their debt with the proceeds from their net exports (fig. 38). Our major agricultural trading partners alone represented 67 percent of that total.

The standard analysis of debt relates debt and debt service to GNP and exports. This analysis is similar in many ways to commercial bankers' ratios such as debt to assets, payments to income, and so on. In addition to the standard debt ratios, we included the ratio of net-adjustment to GNP and exports. A high net adjustment ratio implies very large costs to moving an economy back to payments equilibrium.

The debt ratios present quite a different picture than do the debt levels (fig. 39). Note that although low-income Africa has low debt levels in value terms, the debt-to-export ratios of this category far outweigh those of other groupings. In a relative sense, the problems of low-income Africa are as great or greater than those of the major debtors' categories.

This is not equally true for low-income Asia, which currently does not seem to have a serious debt problem, based on adjustment and debt service to export ratio. This group, which represents Indian subcontinent countries, has made significant progress in agricultural and general development programs. The relatively low debt ratios imply that debt will not be a constraint on their ability to continue with this success.

Table 2 presents alternative calculations of debt-service ratios. Columns (1) and (2) are

Table 2--Debt service ratios calculated as a percent of 1982 GNP and exports for country categories

Country categories	Debt service		----Debt service/GNP----				----Debt service/XGS----			
	GNP (1)	XGS (2)	10 YR (3)	20 YR (4)	30 YR (5)	50 YR (6)	10 YR (7)	20 YR (8)	30 YR (9)	50 YR (10)
All developing countries	14.2	23.4	14.3	10.5	9.5	9.1	23.6	17.2	15.7	15.0
Low-income Africa	5.5	20.8	11.6	6.4	4.7	3.3	43.7	24.1	17.6	12.6
Low-income Asia	5.7	9.1	11.6	6.3	4.7	3.4	18.0	10.1	7.5	5.5
Middle-income oil importers	15.2	26.5	15.9	11.8	10.9	10.5	27.7	20.6	18.9	18.2
Middle-income oil exporters	14.8	21.2	13.0	9.6	8.8	8.4	18.6	13.7	12.5	12.0
Major borrowers	15.7	30.2	15.6	11.7	10.8	10.4	30.0	22.5	20.7	20.0
Debt-affected countries	14.2	33.1	17.0	12.6	11.5	11.1	39.6	29.3	26.8	25.8
Agricultural trading partners	16.4	28.3	17.0	12.6	12.6	11.1	29.3	21.7	19.9	19.1
Africa, South of Sahara	10.8	15.5	13.6	8.8	8.8	6.4	19.6	12.6	10.5	9.2
East Asia and the Pacific	14.5	12.5	16.8	12.3	12.3	10.8	14.5	10.7	9.7	9.3
Latin America and the Caribbean	15.0	39.7	13.9	9.1	9.1	6.8	36.8	24.0	20.2	17.9
North Africa and Middle East	15.6	22.6	17.7	13.4	13.4	12.0	25.6	19.4	18.0	17.4
South Asia	5.7	9.1	11.5	6.5	6.5	3.6	18.3	10.3	7.7	5.7
Europe and Mediterranean	15.7	20.6	15.3	10.6	10.6	8.7	20.1	14.0	12.3	11.5

Source by column: (1) and (2) are taken from table 5 (25).

(3)-(6) take total debt from table 2 column (1) (25) and calculate the mortgage payment equivalent based on 10- to 50-year terms and divide by 1982 GNP.

(7)-(10) Same as above except divide by exports of goods and services.

current debt service based on existing loan structure. Columns (3) through (10) represent conversion of the existing debt into mortgages of different maturities.

Countries undergoing economic development have a very long delay between investment and returns. In addition, development requires high outlays on investments for decades before repayment can be made. For example the United States was a debtor until World War I, well over a century after our development as a nation began. Note, however, that the current debt structure of the developing countries more closely approximates a 10-year mortgage than any other term. It therefore appears that there is a real discrepancy between the structure of development finance and the returns to development.²³

WORLD DEBT IN THE FUTURE

We used a simple macrorecursive growth model based on current parameters for each of the 93 countries analyzed in the study to evaluate the current debt problems' implications for economic and trade growth of developing countries over the next 5 years. Using the model, we projected the basic variables for the next 5 years for each of three alternative scenarios. We did not attempt predictions. Rather, we assessed the logical consequences of the current situation for growth and trade by comparing the three scenarios which vary the degree to which financial constraints restrict the economic growth of the debtor countries. Taking the current situation of each of the 93 countries, we applied the same rules of constraint to all countries and let the country-specific parameters determine the outcomes.

The three scenarios are defined as follows:

1. The base case. This is defined as a situation in which there are no financial

²³ The appropriate relationship between the debt-repayment term and the development path pursued by a nation needs further analysis. Here we merely assume, based on cursory observation, that there appears to be a discrepancy between what seems to be a reasonable structure of debt and the likely returns to development in the developing countries in the next decade.

constraints. The countries grow according to their savings-constrained, historically determined growth path.²⁴ Debt grows as needed by an amount equal to net imports and accrued interest payments.

2. The one-third adjustment case. This is defined as a situation in which countries must adjust towards an equilibrium in their balance of payments. Equilibrium is defined as a condition where interest payments on the national debt are equal to net exports plus net financial transfers. The adjustment is defined as the difference between interest payments on the external debt and the sum of net exports and net financial transfers. The one-third adjustment case assumes that the adjustment undertaken each year is one-third of the total adjustment required to achieve equilibrium. We assumed that countries can obtain the required financing to achieve this adjustment.
3. The full adjustment case. This case imposes the condition that all countries must fully adjust every year to their equilibrium. No new international financing would be available under this full adjustment case. Internal savings less allowances for interest payments would determine growth and trade.

The base case generates an average annual growth rate of approximately 6 percent for all countries (fig. 40). However, the different initial country conditions generate very different growth patterns for individual countries and groups of countries. For the period 1982-87 as a whole, total GNP growth ranges from a low of 19.2 percent for low-income Africa to a high of 39.4 percent for debt-affected countries. For individual countries, the differences are even more pronounced. Singapore and Malaysia have GNP growth projections over the 5 years of more than 55 percent while the Sudan has a negative growth rate even in the base case (fig. 41).

²⁴ See (1) for a more complete discussion of the effects of savings constraints on economic development. Debt grows as needed by an amount equal to net imports and accrued.

The outcomes are far more bleak in the one-third adjustment and full adjustment cases. For all countries, GNP growth falls from a 5.8-percent increase in 1982 to a 9-percent decline in 1983. Total GNP growth from 1983 to 1987 increases only 13.8 percent. At the same time, nondebt-affected countries such as Singapore still exhibit growth above 50 percent for the 5 years. Sudan, on the other hand, shows a negative growth of 15 percent in the full adjustment case.

In per capita terms the differences become even more distinct (fig. 42). While all country categories achieve some growth in the base case (marginally in low-income Africa), most groupings and countries have declining per capita incomes under the full adjustment case.

The differences between the import performance under the different scenarios is even more pronounced than that of income. There is a reduction of \$275 billion in imports of developing countries between the base case and the full adjustment case, a 35-percent loss (fig. 43). The one-third adjustment case still represents a \$130-billion reduction in imports of developing countries. Two-thirds of that loss is accounted for by the countries which are agricultural markets of the United States. The East Asian countries on the other hand do not seem to be as adversely affected by debt. The adjustment process imposed on the developing countries involves a realignment of the import-export trade balance that in turn affects U.S. export markets.

As these results show, the different scenarios have a significant effect on trade. However, the key to the feasibility of any of these options is whether it is reasonable to assume that the debt required to sustain them can be forthcoming.

The unconstrained base case involves a debt buildup from the 1982 level of approximately \$700 billion to a total of \$2.9 trillion in 1987. This is more than a 400-percent increase in 5 years and would require growth rates in debt far in excess of the very rapid rates between 1973 and 1981. However, even the one-third adjustment case requires growth in debt of more than 300 percent in 5 years. Only in the full adjustment case is debt reduced by the end of the period, and then only marginally. Even in this case, some additional financing is required through 1985.

Given the current world environment and the fact that net transfers to the developing countries were estimated to be a negative \$11 billion in 1983, an alternative which requires larger and larger debt accumulations on the part of the developing countries will not be reasonably possible (29). This point is brought out even more significantly in the projected debt ratios for the three cases (fig. 44). Only the full adjustment case reduces these ratios. In the base case, debt ratios both in terms of GNP and exports triple over the 5 years. In the one-third adjustment case, debt ratios more than double.

The analysis of this section illustrates vividly the difference between the debt-constrained case and the nonconstrained cases. Logical and consistent projections of the implications of the current situation show the seriousness of the current debt problem and the magnitude of its cost. Moreover, in the constrained cases, the magnitudes of the cost may well be underestimated. We assumed a constant, healthy growth rate in the world economy of 3.5 percent a year for the next 5 years. We did not consider the interdependent effects on world growth. The magnitude of the adjustments associated with the full adjustment case, which would affect a significant part of the world economy, would have a dampening effect on the economic performance of the rest of the world. Furthermore, we assumed healthy growth in the demand for the exports of the developing countries and that markets in the OECD countries will be available at the same time that the developing countries reduce their import demand.

THE EFFECTS OF WORLD DEBT ON U.S. AGRICULTURAL EXPORT PROSPECTS

By 1982, the financial constraints to the international payments system were severe enough to adversely affect trade in agricultural products, especially imports to developing countries (in dollars), more so than in the nonagricultural trade. Furthermore, U.S. exports of agricultural products declined more severely than total agricultural imports to developing countries, a significant loss in market share.

Agricultural imports declined as a proportion of total imports for all 93 developing countries

Figure 41
Change in Gross National Product, 1982-87

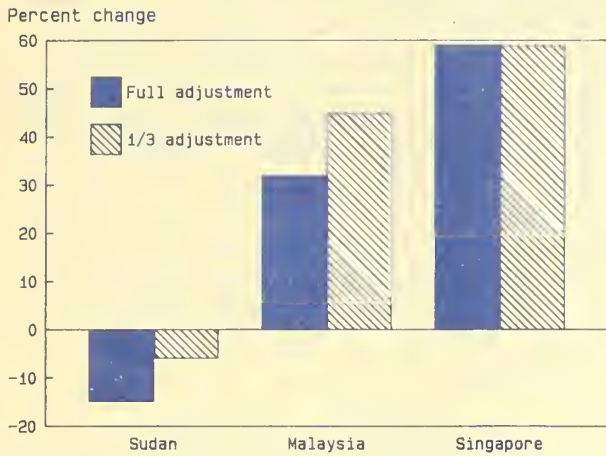


Figure 44
Debt-to-Export Ratio, All Developing Countries

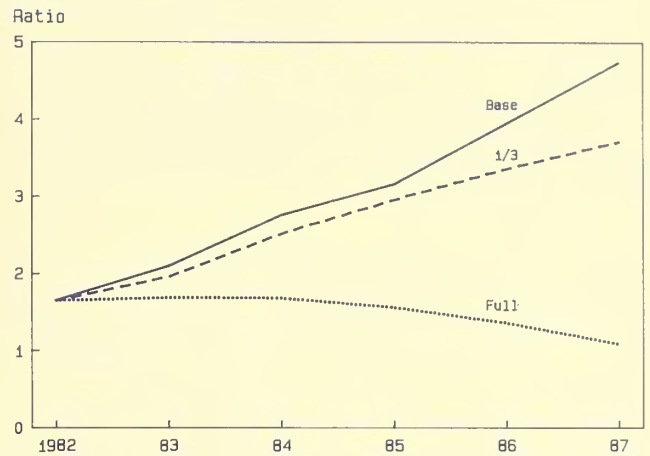


Figure 42
Per Capita Income Projections

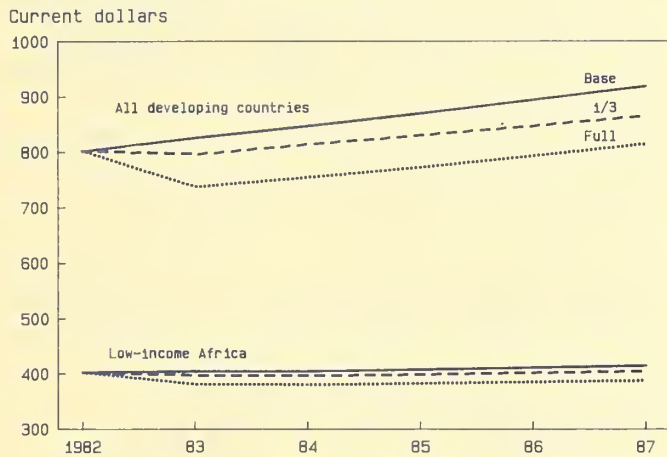


Figure 45
Ratio of Agricultural Imports to Total Imports

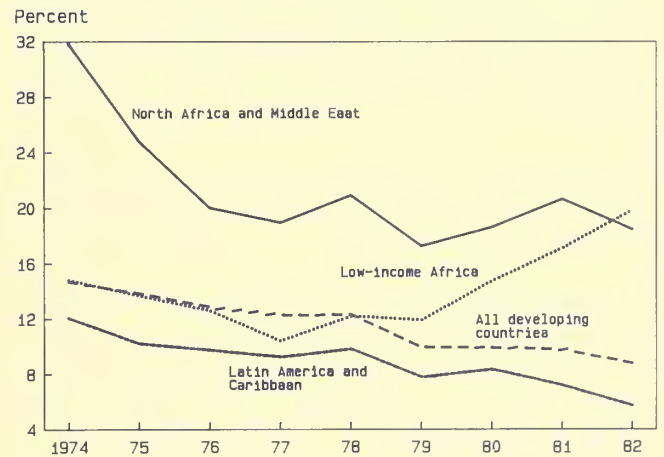


Figure 43
Projected Imports

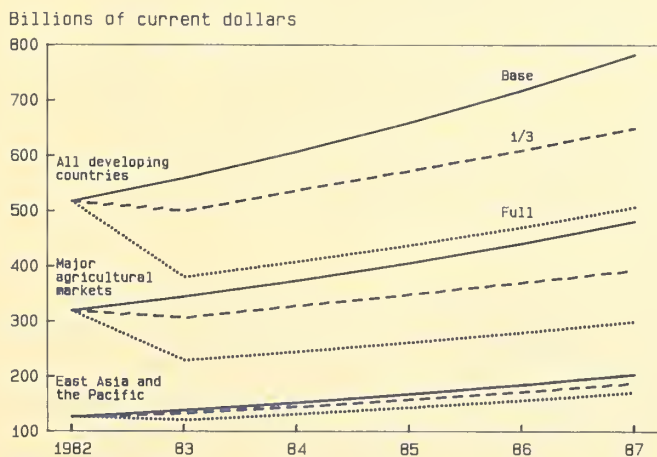
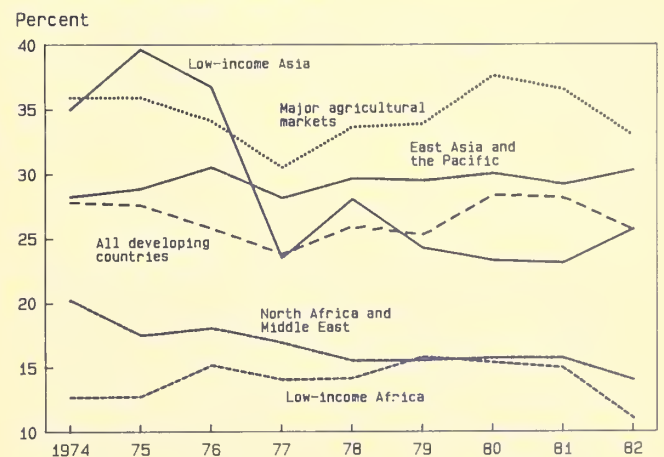


Figure 46
U.S. Agricultural Exports as a Ratio of All Agricultural Imports



from 1979 to 1981 (fig. 45). However, the financial constraints felt by the developing world exacerbated the shrinkage of agricultural trade in the total of world trade. For all developing countries, imports of farm products, measured in dollars, fell from 9.7 percent of all external purchases in 1981 to 8.7 percent in 1982.

The decline was particularly pronounced in our major agricultural market countries, falling from 9.7 percent to 8.4 percent over the same period. In Latin America, the deterioration took place over a 2-year period, with agricultural imports as a percentage of total imports falling from 7.7 percent on average over 1979–81 to 5.7 percent in 1982. North Africa and the Middle East saw a reversal of the upward trend in 1982, as farm products fell from nearly 21 percent to less than 19 percent of all imports. The dire food situation in low-income Africa, in stark contrast to the changes in other regions, is reflected in the sustained increase in purchases of foodstuffs from abroad, even in the face of deteriorating external conditions.

The market share of U.S. agricultural exports decreased from over 28 percent in 1980–81 to 25.5 percent in 1982 (fig. 46).

The performance of U.S. agricultural exports is exemplified by the decline in low-income Africa, where the United States lost market share despite that region's increase in overall agricultural purchases. The market loss is particularly severe in the major agricultural markets, and in North Africa and the Middle East. Interestingly enough, the U.S. share to the two Asian regions actually increased even with the exclusion of Taiwan.

The authors estimated the probable effect of the three scenarios (baseline, one-third adjustment, and full adjustment) on U.S. exports by assuming alternative U.S. market shares.

The following two cases were considered:

Historic market share. We assumed that the market share of agricultural imports achieved by the United States for each of the 93 countries in 1979 to 1981 will prevail from 1983 through 1987. This is somewhat optimistic given the historically high rates achieved during this period,

especially in 1980 and 1981. However, the decline in market share between 1981 and 1982 was probably caused by two factors which should change favorably over the coming 5 years: the relative value of the U.S. dollar and the high support prices for U.S. agricultural products. If the U.S. dollar should decline towards the 1979–81 relative value, a 35-percent decline in real terms from the highs achieved in January 1984, and if farm programs allow prices of U.S. products to more closely reflect world prices, the 1979–81 share will be achievable.

1982 market share. There was a significant drop in the market share of the U.S. component of agricultural imports between 1979–81 and 1982.

We also investigated the implications of projecting the 1982 market share through 1987; this is a pessimistic case. We considered this as a lower bound estimate. The real rate of increase in the value of the dollar in major agricultural markets slowed in 1983 and, although increasing again in 1984, should begin to decrease in 1985. Support prices are not likely to remain at the same high levels.

Agricultural imports as a percentage of total imports generally declined in the 93 countries during 1979–82. Agricultural imports from the United States also fell as a share of total agricultural imports. Thus, there is a significant difference in whether the U.S. position will continue at the 1982 market share or drop further or regain its previous market share.

Given these two alternative possibilities for U.S. export performance over the next 5 years, we generated six scenarios: two projections each for the baseline, the one-third adjustment, and the full adjustment cases. The total potential cost to the U.S. agricultural export sector may then be examined as aggregates, the projected rates of change, and the differences between the projections.

The difference in U.S. agricultural exports between the baseline estimate, the case with no financial constraints, and the full adjustment case reaches a level of almost \$7.4 billion by 1987 (using the 1979–81 market share). However, even in 1983, the difference

U.S. Agricultural Exports and Export Projections, 1979-81 Market Share

Figure 47
All Developing Countries and
Major Borrowers

Billions of current dollars

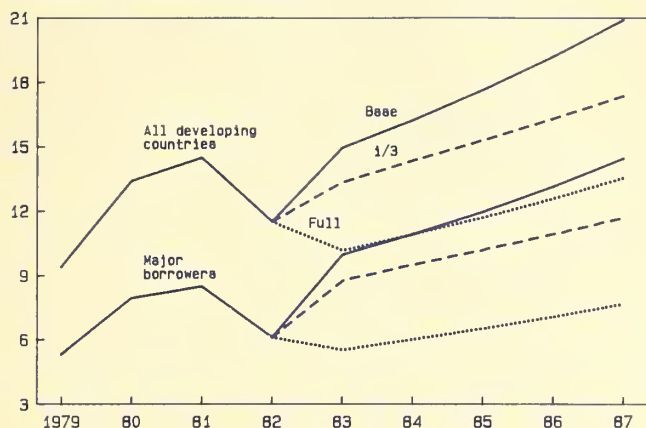


Figure 50
Debt-Affected Countries

Billions of current dollars

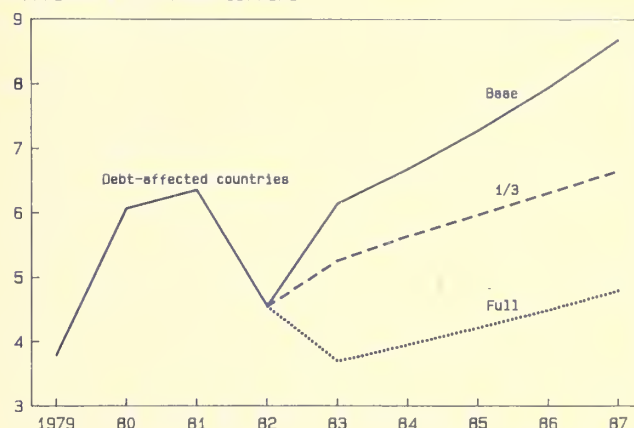


Figure 48
Major Agricultural Markets and
Middle-Income Oil Importers

Billions of current dollars

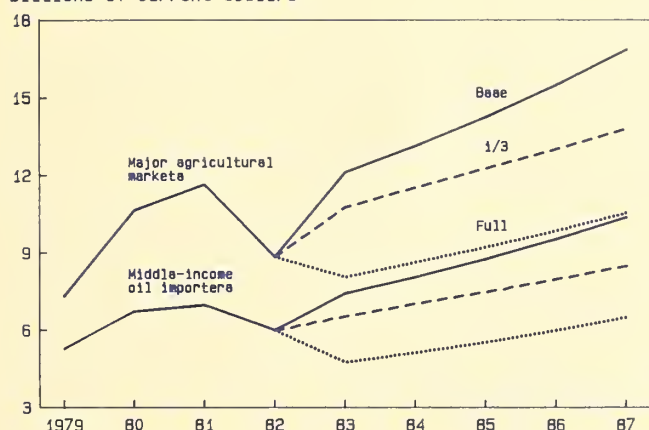


Figure 51
Latin America and Caribbean and
Europe and Mediterranean

Billions of current dollars

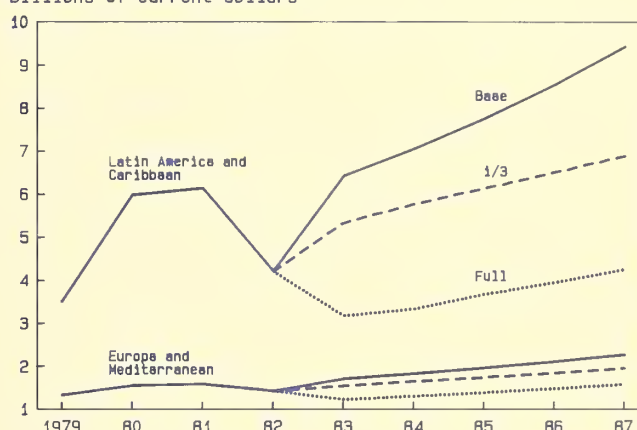
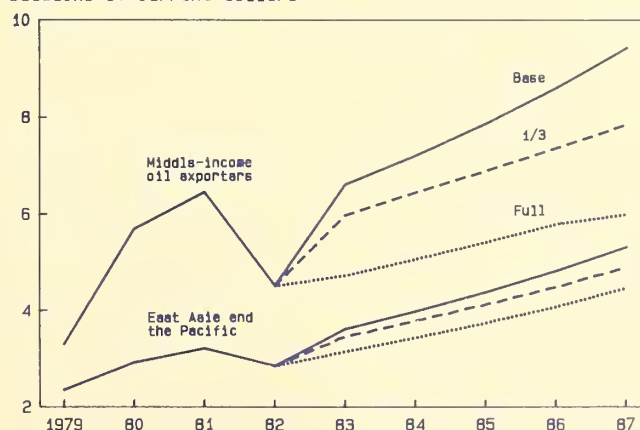


Figure 49
Middle-Income Oil Exporters and
East Asia and the Pacific

Billions of current dollars



U.S. Agricultural Exports and Export Projections, 1982 Market Share

Figure 52
All Developing Countries and
Major Borrowers

Billions of dollars

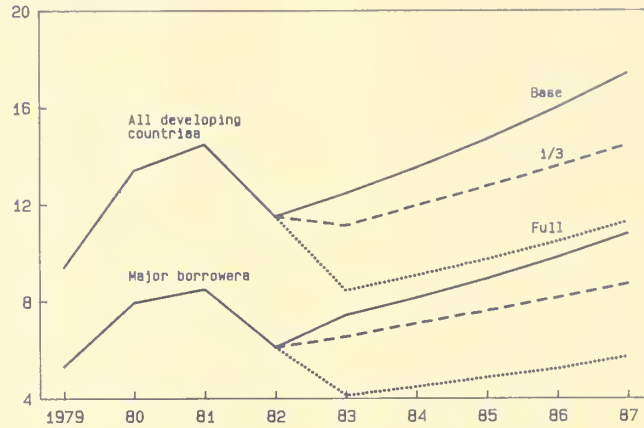


Figure 53
Major Agricultural Markets and
East Asia and the Pacific

Billions of dollars

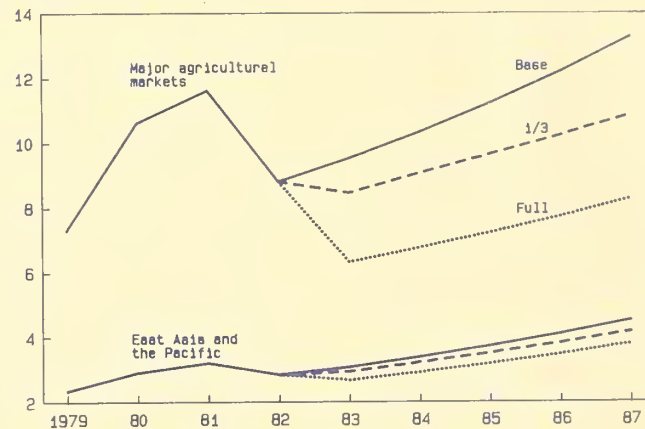
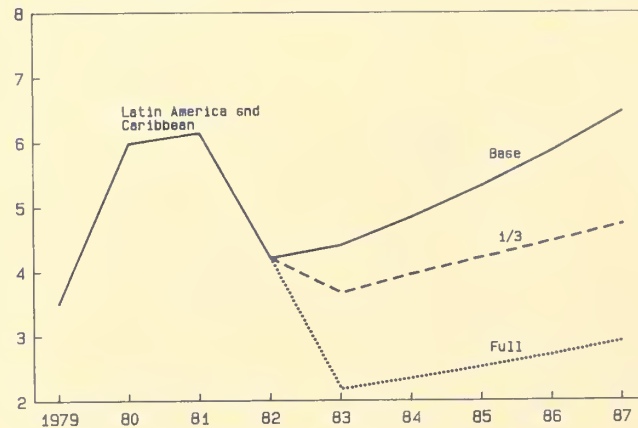


Figure 54
Latin America and Caribbean

Billions of dollars



is almost \$5 billion. The difference between the baseline and the one-third adjustment case is much less initially, only \$1.6 billion, but would become \$3.5 billion by 1987.

Figures 47 through 51 show the projections, based on the 1979–81 market shares, for U.S. agricultural exports from 1983 to 1987, along with historical data from 1979–81. By 1987, the \$7.4-billion difference between the baseline and the full adjustment case is dominated by three country categories whose members overlap: \$6.7 billion is accounted for by the major borrowers, \$6.3 billion by major markets for U.S. agricultural exports, and \$5.2 billion by the countries in Latin America. Other significant losses in U.S. exports of farm products appear for the debt-affected countries, middle-income oil importers, middle-income oil exporters, and Europe and the Mediterranean. East Asia and the Pacific retained the largest portion of the baseline estimates, with 84 percent of the baseline remaining even under the full adjustment scenario.

The baseline case achieves the best overall performance in U.S. agricultural exports with average annual growth over the 1983–87 period of more than 8.5 percent. The one-third adjustment case shows average annual growth rates which are above 6.5 percent but which decline over the period. The full adjustment case has a rather sharp decline in the first year of the projection, the year with maximum adjustment. Then, annual growth rates increase to almost 7.75 percent by 1987. For the one-third adjustment case, export levels are higher, but with lower growth rates in the latter part of the period. In this case, adjustments keep occurring over the projection period. After the initial shock imposed by the full adjustment case, debt is less of a constraint to growth. Thus, trade grows more in line with the long-term historical rate.

The projections based on the 1982 market share are less optimistic (figs. 52–54). For this case, U.S. agricultural exports are approximately 15 percent less than in using the 1979–81 market shares. Exports do not even achieve their 1982 level within the 1983–87 projection period in the full adjustment scenario.

Using the 1982 market share, the difference between the baseline and the full adjustment scenario is \$6.1 billion by 1987. The same major categories again dominate the potential loss: major borrowers account for \$5 billion, major agricultural markets also \$5 billion, and Latin America \$3.5 billion.

The projections for both the 1979–81 and 1982 market shares reflect the declining portion of the baseline estimates achievable using either of the adjustment scenarios. Figures 55–56 shows the proportion of the baseline for the 1982 share for the one-third and full adjustment cases. For the 93 countries, the one-third adjustment implies a reduction from 89 to 83 percent of the baseline for the projection period. In full adjustment, the decline is less dramatic, from 68 to below 66 percent of the baseline projections. Adjustment to financial constraints implies a cumulative loss in export potential.

Figure 55
U.S. Agricultural Exports as a Percent of Baseline and 1/3 Adjustment Case

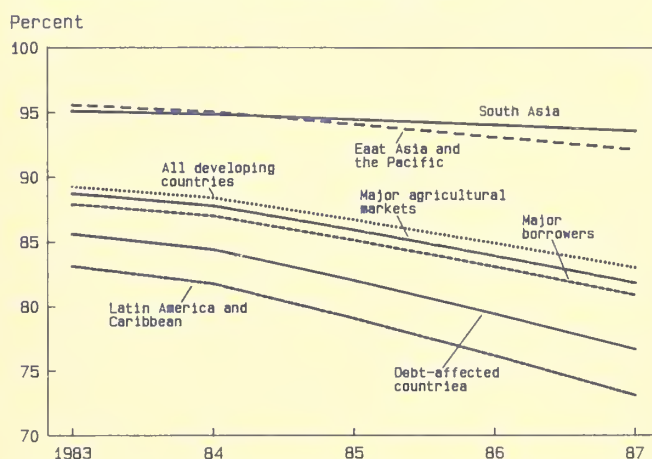
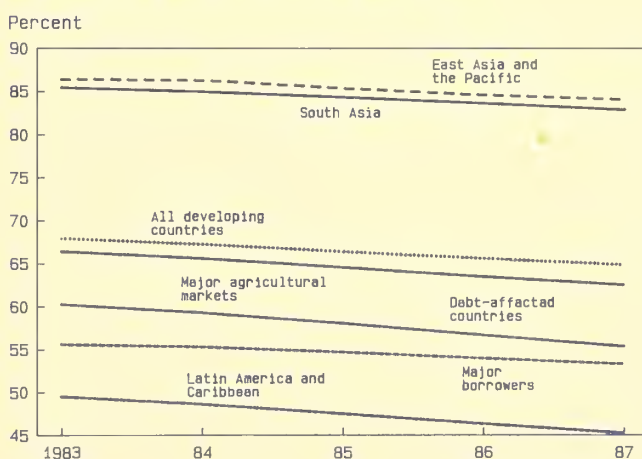


Figure 56
U.S. Agricultural Exports as a Percent of Baseline and Full Adjustment Case



Latin American countries illustrate the greatest difference between the baseline and the one-third and full adjustment cases. By 1987, the one-third adjustment value falls to 75 percent of the baseline. In the two Asian groups, not even the full adjustment case falls below 80 percent. The full adjustment case in Latin America is the most severe, with U.S. exports projected at less than 50 percent of baseline estimates. The only two other regional groupings for which the full adjustment cases drop below 60 percent of the base in 1987 are major borrowers and debt-affected countries. Furthermore, the latter category also has a one-third adjustment case of below 80 percent of the base in 1987. Somewhat more encouraging, major agricultural markets do not show much difference from the 93 developing countries as a whole.

The difference between the 1979-81 market share estimates and the 1982 market share estimates represents the effect of the change in U.S. exchange rates and loan levels over the period. A return to the 1979-81 average exchange rate and loan level would lead to approximately \$2.5 billion more exports than the 1982 market share.

Figures 57-63 present the maximum difference between possible outcomes by comparing the 1979-81 market share baseline case against the 1982 market share full adjustment case. The export loss would increase from \$6.5 billion to \$9.6 billion over the period 1983-87 for all 93 developing countries.

Once again, the most severely affected region is Latin America (fig. 63) with a potential

U.S. Agricultural Exports, 1979-81 and 1982 Base

Figure 57
All Developing Countries

Billions of current dollars

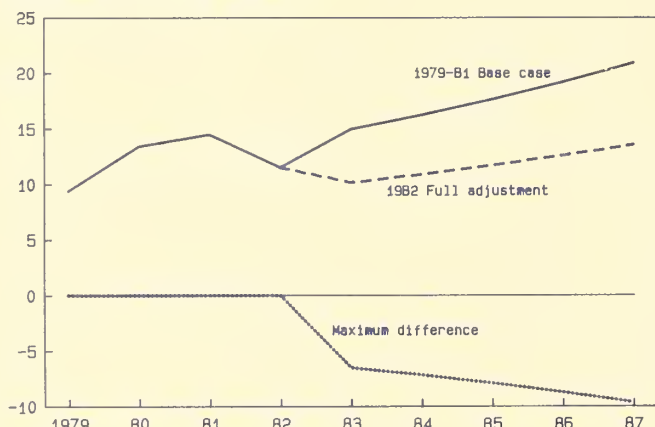


Figure 58
Middle-Income Oil Exporters

Billions of current dollars

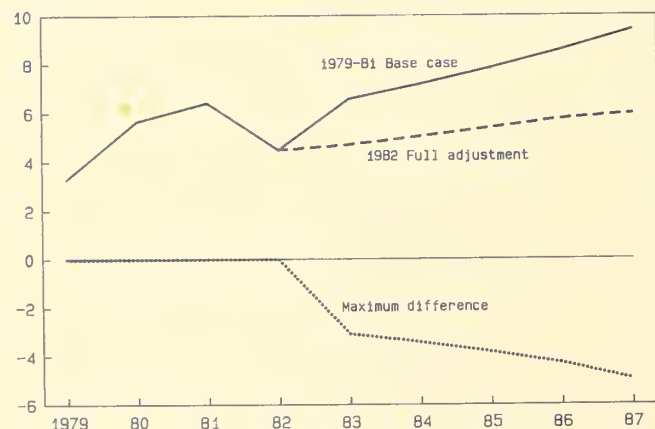


Figure 59
Major Borrowers

Billions of current dollars

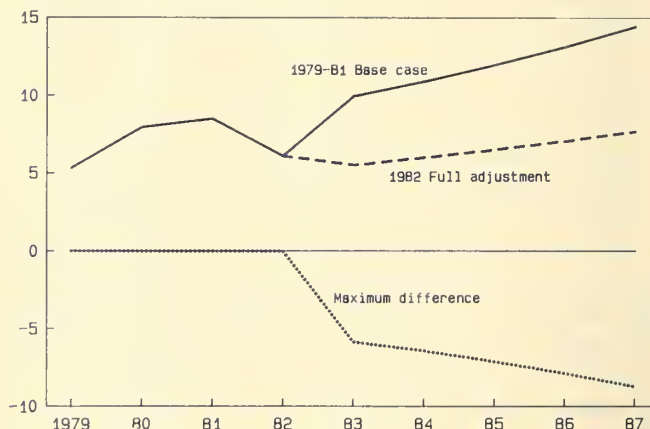
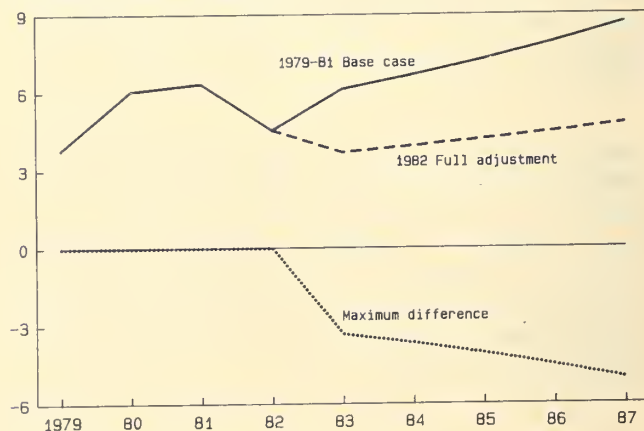


Figure 60
Debt-Affected Countries

Billions of current dollars



market loss equivalent to two-thirds of baseline estimates. Other country groupings with a 50-percent potential loss in U.S. exports are middle-income oil exporters, major borrowers, debt-affected countries, and major agricultural markets. Finance does not seem to be a serious trade constraint for the East Asia and Pacific region.

Because the 93 developing countries make up approximately one-third of the U.S. export market for agricultural commodities, their import performance (our export potential) is highly significant for U.S. agricultural export performance. These countries have the potential to increase or decrease total U.S. agricultural exports by almost 20 percent. In addition, probable export losses are concentrated in countries most severely constrained by external finances. The degree to which such losses are realized depends heavily on the scope and types of response by the United States.

Figure 61
Major Agricultural Markets

Billions of current dollars

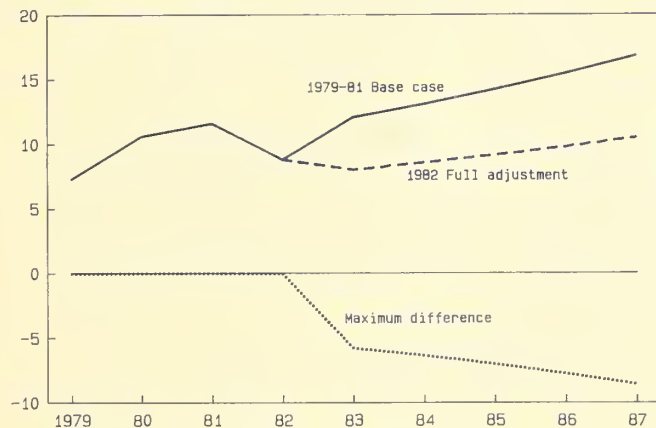
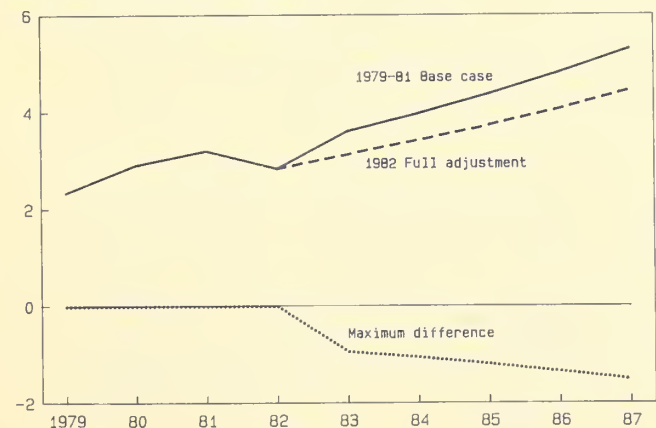


Figure 62
East Asia and the Pacific

Billions of current dollars



THE U.S. RESPONSE: HOW TO MINIMIZE OUR COSTS

We need to know how the United States, through policies and programs, can reduce the adjustment costs of the debtor countries while at the same time increase our prospects for agricultural export growth.

We draw the following conclusions from our analysis:

Dampening of Growth and Trade

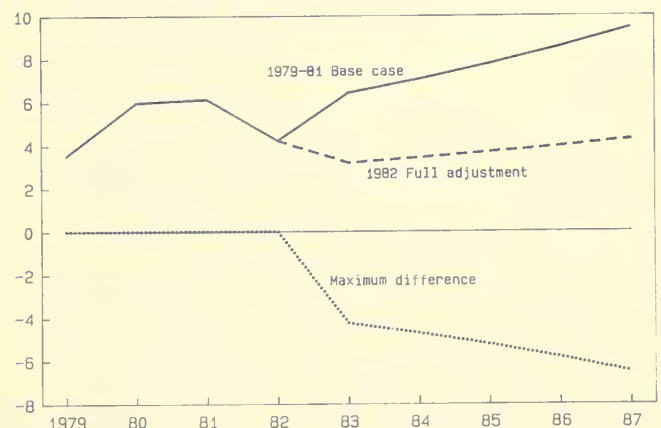
The current debt situation can severely reduce both trade and growth of the developing countries. Countries such as Brazil, Mexico, and Korea are paying a heavy price for their adjustment right now. Brazil has been undergoing adjustment since 1980; Brazilian per capita income decreased 15 percent between 1980 and 1982. Mexican per capita income has declined 25 percent since 1981. Korea, which recognized the problem early, spent 1981 and 1982 adjusting. Per capita incomes in Bolivia and Chile have declined by as much as 50 percent. Yugoslavian per capita income may have fallen by as much as 25 percent in 1983.

The Need for Adjustment

The current situation only partly reflects debt levels. The fundamental disequilibrium in the balance of payments systems of these countries is more significant. Large debt is as much a symptom as a problem. Debt

Figure 63
Latin America and Caribbean

Billions of current dollars



accumulation is both a cause of and a result of balance of payments deficits. National economic policies have encouraged a situation where domestic prices and resources do not reflect scarcity values. Unless this situation is corrected, no realistic amount of additional financing will solve the problem.

Rather, additional financing under these circumstances would simply postpone dealing with what could be a far worse problem.

Financial Restructuring

Restructuring existing debt must accompany significant adjustment efforts by the debtor countries. It is necessary to reduce the debt burden during the period of adjustment when the debtor countries will be realigning their imports and exports. It is also necessary to provide a degree of payment certainty by restricting the impact of upward movements of interest rates on the payment terms of debtor countries.

Restructuring and Protectionism

Long-term success in solving the international debt problem can occur only if the adjustments and sacrifices of the debtor countries result in a realignment of the import-to-export ratios. This means there must be a market for the new exports. If protectionist measures are undertaken to prevent increases in exports of the developing countries from being realized, then there is the real potential for a breakdown in the international finances and trading systems.

Financing and Adjustment

Nonetheless, although providing additional financing will not necessarily solve the problem, it could help reduce the cost of adjustment. Financing can be used as a means for encouraging rapid adjustment and renewed growth. Although the initial cost of the full adjustment scenario is higher, the subsequent growth rate is also higher. In other words, additional financing can be used to put off adjustment, encouraging continued misallocation of investment and consumption, or it can be used as a means for undertaking the investments necessary for rapid adjustment for the benefit of all. Which of these occurs depends on how we structure our

financing programs and how the debtor countries manage the funds.

Financing and U.S. Exports

In the current world environment, with large debt overhanging growth and trade, financing is a key to generating an export stream approximating that of the baseline case. If financing can generate exports at a rate of 30 to 50 percent of the amount--that is, \$10 million in aid generates \$3 to \$5 million in exports--then an initial \$6 to \$9 billion, rising to \$15 to \$20 billion, should generate the baseline export projection. However, more research is necessary to validate this initial estimate of the export-generating capacity of additional financing because we have assumed that there will be no change in the structural links between developing countries growth patterns and their trade patterns.

Financing and Repayment

Under the simulation, most of the countries can manage the adjustment without unacceptable income losses. A rapid adjustment will generate high levels of growth, implying an ability to repay the loans. Furthermore, considering that income multiplies the effect of export sales and the subsequent tax revenue generated by them, positive benefit-to-cost ratios should result from a significant export finance program. However, current programs with short-term payment requirements of only 3 years or less may not adequately reflect the required loan structure under current conditions.

The current world debt situation not only can significantly affect growth in developing countries but also can have an even greater effect on developing countries' trade. The future for U.S. agricultural trade is dim if action is not taken to counter the potential losses to trade, especially because of the heavy indebtedness of our major trading partners. However, financing can be used properly both to encourage adjustment to international trade imbalances and to help support our export trade, significantly improving intermediate-term prospects. However, the implications of the debt problem for the growth and trade of developing countries appear to be a significant if not major constraint to be dealt with over the coming years.

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